**Endicott College**

**Beverly, Massachusetts**

**School of Visual and Performing Arts**

Course Syllabus

Course Number: ID 308 01

Course Title: Construction + Matierals IV: Contract Documents

Credits: 3

Class Type: 4-hour studio

Semester and Year: Spring 2017

Class location: Meets Monday and Wednesday, 1:30-3:20, VPAC 206

Faculty: Andrew Brody AIA, Professor

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Office hours: By appointment, and T, W, and Th from 12-2

Catalog Description:

Contract documents are prepared combining knowledge of architectural, structural, environmental systems, interior construction detailing, architectural millwork and furniture design and detailing. Detailing theory and processes are explored and supported by the exploration of material technology, construction processes, and finish systems research.

Learning Objectives:

At the completion of this course students will be able to:

1. To develop competent skills in the production of contract documents and construction processes.
2. To develop a working knowledge of the necessary documentation and detailing required having interior architectural designs constructed.
3. To develop the technological foundation and understanding of building systems integration-ensuring that a design works within an existing building space.
4. To develop competent skills for material technology specification and construction applications.
5. To integrate computer technology courses with contract document preparation through the use of CAD technology.

Teaching/Learning Strategies:

The objectives of this course will be obtained through in class lectures, discussion, and the completion of a highly detailed construction documents project. These projects may be complete individually, or in teams of two. Students will be expected to develop their projects to a detail level consistent with a partial set of professional construction drawings and documentation. Occasional in-class charrettes will develop details for specific project constraints and opportunities.

Required Materials:

* Ballast, David, [**Interior Detailing: Concept to Construction**](http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470504978.html)**,** Wiley & Sons, 2010 ISBN: 978-0-470-50497-0
* Binder for job book
* Money for printing and mounting costs – approximately $75

# Recommended readings:

* Bingelli, Corky, **Building Systems for Interior** Designers, John Wiley & Sons, NY, 2003
* Ching, Francis (1), **Interior Design Illustrated,** **2nd Edition,** John Wiley & Sons, NY, 2004
* Ching, Francis (2), **Building Construction Illustrated,** **4th Edition,** John Wiley & Sons, NY, 2008
* DeChiara, Panero, & Zelnik, **Time-saver Standards for Interior Design and Space Planning, Second Edition**, McGraw Hill, New York 2001
* Harmon & Kennon, **The Codes Guidebook for Interiors Second Edition,** John Wiley & Sons, New York 2001
* Kilmer, Otie and Kilmer, Rosemary, **Construction Drawings and Details for Interiors: Basic Skills,** **Second Edition**, John Wiley & Sons, New York 2004
* McGowan, Maryrose and Kruse, Kelsey, **Interior Graphic Standards, Student Edition**, John Wiley & Sons, New York 2004
* Ramsey Sleeper, **Architectural Graphic Standards, 11nd Edition,** John Wiley & Sons, 2007

Evaluation Methods

There will be four assignments, weighted equally as part of the final grade. Class participation and attendance will also be considered in assigning the final grade. Grading will be assessed in accordance with Endicott College grading scales (A = 4.0, A- = 3.7, B+ = 3.3, etc.). Project grading will be based on the following criteria:

* **A** - Exceptional work, including very high quality research, analysis, design and presentation – taking your work well beyond the outline of the assignment and the goals of the course.
* **B** – Completing the assignment thoroughly and fully, with proper formatting, spelling, grammar and evidence of independent and creative thought. Demonstrating thorough knowledge and understanding of the goals of the course.
* **C** – Meeting the minimum requirements of the assignment. Demonstrating at least some knowledge and understanding of the goals of the course.
* **D** – Partially incomplete or inadequate submittal of the assignment. Demonstrating an insufficient knowledge and understanding of the goals of the course.
* **F** – Seriously incomplete or inadequate submittal of the assignment, or a failure to submit an assignment. Demonstrating a lack of knowledge and understanding of the goals of the course.

ADA Policy

If you as a student qualify as a person with a disability as defined in Chapter 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, the Americans with Disabilities Act Amendments Act of 2008 (ADAAA), you are strongly encouraged to register with the Center for Teaching and Learning. The Center for Teaching and Learning is located in the Diane M. Halle Library room 201 and online at <http://www.endicott.edu/academicresources>.

As a student registered with the Center for Teaching and Learning, it is your responsibility to present your accommodation letter to your instructor at the beginning of each semester.

Academic Integrity Statement

Students are required to abide by the *Academic Integrity Policy* of Endicott College.

Food and Phones

No food or drinks in the classroom. Please, please mute and put away your phones off before class begins - absolutely no phone conversations or texting in class.

Attendance Policy

Attendance is required at each class. Each additional excused or unexcused absence beyond (3) three will result in a drop your final grade. Three tardy arrivals (after 15 minutes late) will be counted as one absence. A student absent or arriving late is responsible for obtaining any information missed in class. Leaving class before it is dismissed will count as one absence. If the Professor has not arrived to class after the first fifteen minutes, students can leave ***after*** signing an attendance sheet.

Late Work

Assignments not handed in by the posted due date will lose one full letter grade for every calendar date it is late. It is the student’s responsibility to ensure that assignments are submitted on time, either brought in by another student or, if permitted by the instructor, submitted electronically.

Class Participation

It is expected that each student will be a contributing member of the class during semester. Students will also be expected to check **Canvas** *and* their campus email before the start of every class – this is how assignments and other announcements will be made.

Topical Outline and Timeline

The course will track a single project through the standard phases of a design:

Weeks 1-3 Pre-design

Weeks 4-7 Schematic design

Weeks 8-12 Design development

Weeks 13-16 Final drawings and specifications

**Note:** This syllabus is subject to change

Class schedule (subject to change):

|  |  |  |
| --- | --- | --- |
|  | Class | Reading/ assignment |
| Jan 23 | Lecture 1: Introduction to the class and the project; process, opportunities, constraints; choose groups if desired |  |
| Jan 25 | Visit to project site: basement of the Van Loan building | * Partner selection, if applicable * Choice of research project * Read project brief |
| Jan 30 | Lecture 2: Constraints and Function  For groups: writing a work plan. Taking meeting notes.  Desk crits: bubble diagrams; work on detailing concept sketches | * Bubble diagram – electronic copy, and print * Statement of approach to space planning * Statement of response to existing building |
| Feb 1 | **Assignment #1: Present Pre-design research boards**  Then, desk crits of space plan | Submit electronic file  Thursday the 2ndt: Kathi Molloy at 9:00 am at the Van Loan. |
| Feb 6 | Desk crits: floor plan layout | Floor plan block layout – hand drawn (submit electronic copy for grade) |
| Feb 8 | Lecture 3: Constructability and detailing   * Work on detail vignettes |  |
| Feb 13 | Work session | (2) Detail vignettes sketches – hand drawn (submit electronic copy for grade) |
| Feb 15 | Lecture 4: SD vs DD graphic standards   * Demolishing elements |  |
| Feb 20 | **No class – President’s Day** | Draft board layout – submit electronic copy for grade |
| Feb 22 | **Assignment #2: Schematics presentation**  Lecture 5: Starting DD, including demolition drawings and floor plan graphic standards |  |
| Feb 27 | Desk crits on plans and demolition drawings | Post drafts of main floor plan and demolition sheet for grading |
| Mar 1 | Lecture 6: Code analysis and detailing |  |
| Mar 6 | Desk crits | Life safety diagram – submit electronic copy for grade |
| Mar 8 | Lecture 7: Building sections, elevations, and doors |  |
| Mar 13 | **Spring Break – no school** |  |
| Mar 15 | **Spring Break – no school** |  |
| Mar 20 | Lecture 8: Room Finish Schedule; title page |  |
| Mar 22 | Desk crits | RFS and title page draft – submit electronic copy for grade |
| Mar 27 | Lecture 10: DD Costing | Draft of drawing set – submit electronic copy for grade |
| Mar 29 | Desk crits: drawing set draft |  |
| Apr 3 | **Assignment #3: DD set due** | Submit electronic copy for grade |
| Apr 5 | Lecture 11: working through redlines, and specs   * Finish material specifications |  |
| Apr 10 | Desk crits | Area take-offs for demolition, flooring, wall types, ceilings (submit the Excel sheet); counts for furnishings, light fixtures, and custom desk |
| Apr 12 | Lecture 12: CD costing, signage |  |
| Apr 17 | **No class – Patriot’s Day** | Signage drawings draft |
| Apr 19 | Lecture 9: Front desk detailing |  |
| Apr 24 | Desk crits | Construction details: casework – submit electronic copy for grade |
| Apr 26 | Start with casework crits | 1:30 |
| May 1 | Red lines |  |
| May 3 | Work session |  |
| May ? | **Assignment #4: Construction drawings and specifications due – no presentations** |  |

**Project brief:**

Endicott College has decided that it will open a for-profit luxury dog hotel, for the pets of hotel patrons, and other locals. This facility will allow single or multiple dogs to board together, and have an array of entertainment and comfort options. There will also be dog grooming and bathing. The facility should have a feeling of luxury, where animals are primped and pampered. Program elements may be combined, emphasized, or de-emphasized according to your operational mission.

**Existing conditions:**

The basement of the Van Loan building has a lovely view and easy access to an area for dogs to run. Exterior storefront-type of windows must be replaced, and light control addressed in whatever the new design option entails. Existing brick interior partitions, rubble foundation walls, and low arched ceiling structure provide opportunities dramatically exposed materials. Metal columns that are original to the space must be preserved, but the newer column system, as well as all existing furnishings and finishes, must be demolished.

Substrate finishes may be left exposed if sealed appropriately, acoustics are addressed, and some way is found to bring power, water, and switching to the different parts of the project. Interior partitions may be demolished. The existing wall separating our project from the rest of the building must be fire rated to accommodate the this is new use in the basement, and the egress door and frame replaced. All other doors in this wall must be sealed up.

If existing ductwork is retained, provide new connections to each enclosed space, and a single return air vent through the toilet room or garbage area. New mechanical systems will be allowed, but must be drawn in and detailed.

**Detailing approach:**

Existing flooring and walls will need to be sealed or covered up, at least at dog height, as they are too porous for this use. All dog-level finishes must be resilient and easily cleaned with a hose and disinfectant, in addition to making a statement about the high quality of the facility. Great effort must be taken to reduce noise, and provide good control and separation for the animals, while creating an open and luxurious facility.

**Detailed Brief for front desk:**

* Clear accessible desk space for one person
* Higher counter for paperwork, flyers, etc.
* Space for computer monitor and base unit
* Space for electric pencil sharpener, phone, fax machine
* Integral wiring for computer and monitor, phone
* Light switches for the lobby
* 1 Wide drawer, 2 medium width drawers, one hanging file folder drawer
* Integrated logo (preferably lit)
* Task lighting over the desk surface
* Kick space in the front
* Comfy flooring behind desk

|  |  |  |
| --- | --- | --- |
| Pet hotel program | | |
|  |  |  |
|  | sub-total | Program notes |
| Dog suites | 600 sf | Cages, or suites with solid partitions? glass or opaque? Acoustical control? connection to the main play area, or not? Area for smaller dogs? |
| Indoor exercise area | 500 sf | Flooring material; drainage and daily cleaning of animal waste; security |
| Lobby and check-in | 140 sf | Tie-offs for dog leashes, sight lines and access controlled; human seating |
| Staff area | 100 sf | Desk, chair, files, storage cabinet, table for lunch; acoustically isolated |
| Food prep | 75 sf | Counter space, including multiple bowls; like a real kitchen; stove and oven with hood; fridge/freezer, with enough storage for "special" meals |
| Food storage | 75 sf | Kibble! fridge and freezer for special meals |
| Dog bathing and grooming | 150 sf | Grooming stand; Drainage and cleanability |
| Gym/activity area | 75 sf | Treadmill? pool? area to throw a ball? Connected to the main play area, or separate? |
| Laundry area | 50 sf | Washer/dryer, and folding area |
| Single fully accessible toilet (for humans) | 75 sf | Just for the humans |
| Garbage area | 25 sf | Separate streams for recycling, mixed garbage, and dog waste |
| Sub-total | 1890 sf |  |
| Circulation: 25% | 480 sf |  |
| Total | 2370 sf |  |
|  |  |  |
| Existing interior area | 2370 sf |  |
|  |  |  |
|  | | |

**Assignment #1**: Pre-design research board

**Description**: Single thematic printed board

**Academic objectives**: Develop an understanding of a single aspect pertinent to this particular project.

**Format**: Physical board, printed. Minimum 11x17, but can be any size that you choose. Also, include the electronic file, so that we all can share it.

**Themes**:

* Acoustics basics and abatement/finish options (group option) – you might want to listen to listen to [Reverb: the evolution of architectural acoustics](http://99percentinvisible.org/episode/reverb-evolution-architectural-acoustics/), or [this article](http://www.npr.org/2016/10/26/498850659/what-s-more-distracting-than-a-noisy-coworker-not-much)
* Dog social psychology (group option) – you might want to look [here](https://uscanine.com/tips/dog-psychology/)
* Dog/human bond (group option) – you might want to listen to listen to [In Dog We Trust](https://www.thisamericanlife.org/radio-archives/episode/154/in-dog-we-trust)
* Masonry waterproofing technology and details – you might want to look [here](http://www.drylok.com/formulas/)
* Animal facility floor finish options – you might want to see reading
* Cage/boarding dimensional standards and equipment (group option) – you might want to see reading
* Waste disposal options – you might want to see reading
* Door and hardware options for animal care – you might want to look [here](http://www.rwhardware.com/products-listing/sliding-door-hardware/) or [here](http://www.adhdoors.com/gallery/?gallery=3) or [here](http://www.securitybossmanufacturing.com/standard_guillotine_kennel_door.htm)
* Dog nutritional needs and preparation area requirements – you might want to see reading
* Drywall options – you might want to look [here](http://www.usg.com/)

**Process**: look into the subject you have chosen, either through readings or websites or any other material that you can come up with. There are some suggestions here, but by all means, look far and wide, from interior design standards two professional animal care literature. Collect images and diagrams which explain your understanding of the subject, along a list of sources, which should include web links. Annotate images it with arrows describing important elements, if needed. As you prepare the board, be sure to emphasize those things which will have an effect on the design process. These boards are meant to be a reference for each person or group as they proceed with the project, so as you present, make sure you highlight the major elements. You can also use one of the incantations from Harry Potter to create your drawings from thin air. Nobody actually reads the syllabus, though, so it might not be the most obvious option.

**Grading criteria:** Thoroughness of research, and clarity of the board and your explanation of the subject.

**Assignment #2**: Schematic design presentation

**Description**: Design presentation and critique

**Academic objectives**: Develop the basic layout and design approach of an interior renovation project, with special emphasis on the approach to construction and materials.

**Project**: Ralph’s Pet Hotel (or whichever name you choose)

**Format**: Physical board(s) printed and mounted. Minimum 24x36, but can be any number or size that you choose.

**Shopping list [group requirements in brackets]**:

* Design Concept (visual and, separately, verbal), with concept deconstruction
* Bubble diagram (indicate visual and acoustical connections/separations, daylighting, main/secondary ingress/egress, views in and out, physical adjacencies and separations, public/private)
* Floor plan (with proposed furniture, materials shown with graphic patterns or shading, north arrow, graphic scale, poché of new and existing differently) [rendered for materials]
* Reflected ceiling plan with a key to symbols (indicate materials and elevations) [rendered]
* Longitudinal sections, indicating room names and notes about major design elements [transverse section; render both]
* Plan diagrams for life safety, acoustical separation, circulation, lighting strategies, water supply and drainage, electrical supply, HVAC [section diagram indicating same considerations]
* Detail sketches: finishes interface with existing conditions at the floor to wall, and wall to ceiling, [infill at former door opening, flooring material transition at exterior door, and window wall frame at the interior wall]
* One rendered perspective (B/W ok), at least 20” wide [additional view]
* Every drawing should have a title and a scale; appropriate sheet title(s) and ancillary graphics

**Process**: Tour through the existing space, noting the existing materials and structural system. Look for both opportunities and constraints that those systems might impose. Come up with a layout for your project that works from an aesthetic standpoint, and also from an operational standpoint. Do plan diagrams to illustrate different features of the space, including circulation and HVAC. On another diagram, indicate which elements of the space will need to be studied in further detail, such as a half-height partition wall or a lighting cove. Diagram your approach to existing materials at different locations, including the floor slab, brick and rubble walls, and the low arching ceiling. This stage of design should be all about your general strategies, and not as much about the specific materials and construction systems, so generic walls, ceilings, and furniture are fine. Be sure to consider acoustics, sight lines, and particularly, drainage from daily cleaning. Note project elements that need to be demolished, in addition to the details of new construction. Take a stab at lighting, and render, although the renderings can be in black-and-white.

**Grading criteria:** Thoroughness of the submission, in both breadth and depth. Programmatic considerations should be solved in a reasonable and simple manner. There should be some sort of aesthetic scheme which is consistently applied, including both the actual design, and also the layout of your board(s). And finally, students should have a broad sense of the different elements of the project that will need to be studied in further detail.

**Assignment #3**: Design Development

**Description**: Printed drawing set

**Academic objectives**: Test the constructability of the schematic layout for an interior renovation project

**Format**: Printed drawing set, 36x24, stapled on the left side

**List of sheets and drawings**:

* Title page – A0
  + Life safety diagram, floor plan graphics key, abbreviations, large perspective, code definitions
  + ¼” is fine for drawing titles (approx. 18 point)
  + ½”-1” works for sheet titles
  + 5/32” is fine for notes (approx. 14 point)
* Demolition plans and elevations – A1
  + Plan, ceiling plan, at least one elevation – all at 1/8”=1’-0” (clearly indicate what is to be demolished, both graphically and with key notes)
  + Key to graphics, and a chart of key notes
  + At least one annotated photograph indicating elements to be removed vs. retained
* Partition types – A3
  + Section drawings at 1 ½”=1’-0” (include full partitions, half-height walls, furred out walls, and tiled walls separately) for main interior partition
  + Indicate all finish materials, framing materials, base (material and application method), ceiling and floor interface
  + *[At least one additional type, such as the toilet room wall]*
* Floor plan – A2
  + Include room names, key, wall type tags, and dimensions
  + Indicate flooring finishes, thresholds, and transitions with notes (no hatch patterns this time)
  + At least one flooring transition detail [additional flooring detail]
  + Room finish schedule
* [*flooring plan –A4*
  + *all flooring materials hatched*
  + *flooring schedule*
  + *transition details indicated*
  + *transition section details]*
* Reflected ceiling plans A…
  + With key for fixture
  + *[Show sprinkler heads, exit signs, and vents for HVAC, if you have them]*
  + Indicate and dimension all soffits, finish materials, and HVAC (if visible)
  + Must show exit signs, HVAC (where appropriate)
* Longitudinal building section showing exterior window wall – A…
  + Vertical dimensions; annotate materials
  + Signage
  + Window treatments
  + Poché appropriately; cut line to indicate limit of work
  + *[transverse building section]*
  + *[detail section where interior partition meets existing construction]*
* Door types – on A1
  + Elevation of each door and, separately, each frame, dimensioned, with notes about materials
  + Elevation of each frame, dimensioned, with notes about materials
  + *[Elevations of doors/windows at exterior wall]*
* Revised plan diagrams *[and section diagrams]*
* *[working plan and weekly meeting notes]*

**Process**: You will need to choose which of your projects that you are going to move forward with, Or at least which project will form the basis for your design development. You may also share elements from each of your projects, as the things develop. Start looking at various aspects of your project in greater detail, with more attention given the actual dimension and configuration of finish materials and construction systems. First develop different partition types. Then looks at doors and frames. Start using schedules to keep track of finishes.

**Grading criteria:** Thoroughness of the submission, and consistent development across all elements of the project. Drawings should indicate an appropriate level of detail development. In particular, all the laments should have specific materials and dimensions. Those working in teams should include their working plan, and weekly meeting note, including descriptions of who is working on what. Teams and individuals must produce all detail development and final drawings to a similar level, but teams will have all of the additional drawings.

**Assignment #4**: **Construction drawings and Specifications**

**Description**: Printed drawing set for the installation of the front desk.

**Academic objectives**: Learn to study and detail construction and finish systems to a degree that the design can be fabricated and installed.

**Format**: Printed drawing set, 36x24, stapled on the left side, and set of specifications (in tabbed project binder with all materials from this class)

**List of drawings:**

* Revised DD set (respond to redlines)
* Also…
  + Front desk drawings all at 1 ½”=1’-0”
    - Rendered axonometric, exploded axonometric, or section perspective, annotated to describe location of required design features
    - High and low plans (be sure to show relationship to nearest wall)
    - Two sections (through drawers and open desk area)
    - Counter edge detail (full scale)
    - Accessibility reference for desk clearance (from CMR 521)
    - Wiring diagram – indicate lighting above, switch locations, circuiting, and grommets
    - Flooring material and connection
    - All structural materials, dimensioned and annotated
    - All finish materials and application methods, dimensioned and annotated
    - All hardware indicated and annotated (function, type, finish)
  + *[Switching plan (switches, outlets, voice/data plugs)]*
  + Door schedule, door types, frame types, and details
  + *[Window details (sill, jamb, and head), including window treatment assemblies]*
  + All interior elevations (not shown on sections), annotated
  + Signage elevations and details
  + Final Cost estimate
  + Specifications for all major finish materials, furniture
  + *[Specifications for doors, hardware, lighting, switch plates, exit signs]*
  + Materials samples for all major finishes (in the job book, mounted on card stock, and labeled)

**Process**: Revise DD set, based on redlines from initial submission, and development of the design. Develop your design for the front desk. Drawings should be aligned with each other and be fully dimensions and annotated. Consult reference manuals as needed – Interior Design Graphic Standards is probably the most useful. If using laminates, consider how the ends of the material are finished, and what if any joints are needed. If using wood as a finish material, consider both species, if it’s veneer (likely) or solid, and the finish properties (clear finish, painted). Also consider if it should be matte, satin, or glossy, and site or shop finished.

**Extra credit:** Large exploded rendering of the front desk. Large rendering of the main space, in color, with materials and lighting accurately represented.

**Grading criteria:** thoroughness of the submission, in both breadth and depth. Those working in teams will must produce all detail development and final drawings to a similar level.