**Department of Building Construction Technology**

**Engineering, Computer Programming, & Technology**

<http://www.valenciacollege.edu/west/engineering/>

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**Course Syllabus** *for* **TAR1120C Architectural Drawing, CRN 30184 - Summer 2022**

**Course Description** *from the Valencia Catalog:*

This course covers residential design and wood frame construction with additional study in aspects of housing, aesthetics and working drawings. Students prepare assigned drawings. Special fee: $46. 3 credits, 4 contact hours. Prerequisites: A minimum of one unit of high school drafting or equivalent work experience in drafting or ETD 1103C for those students with no drafting experience. BCN1303C preferred.

**Class Meetings:** **Required RTV 7:00 – 8:30 PM Thursday evenings via ZOOM + Online**, 15 weeks

**Text: *Architecture - Residential Drawing and Design*** by Kicklighter & Thomas ©**2018** (or newest edition), published by **The Goodheart - Wilcox Company**, Inc.

**Instructor Information:**

Name: **Andrew Ray**

Cell Phone: 321-945-5995 please no calls past 9:00 PM

Email: **ARay**@valenciacollege.edu

Office Hours: Virtual Office hours – see schedule on Faculty Front Door

**Student Performance Assessment:**

Lecture exams, quizzes, homework, class projects, and the final exam will determine your course grade. Your final average will be valued according to the following grading scale:

**Grading scale:**

90 - 100% = A

 80 - 89.9% = B

70 - 79.9% = C

60 - 69.9% = D

0 - 59.9% = F

***Grade Breakdown:***

 *Midterm + Final  = 36%*

 *Arch. Drawings = 18%*

 *REVIT Project = 18%*

 *Portfolio  = 10%*

 *Homework & Quizzes   = 18%*

 *TOTAL = 100%*

**Software: *This course will require students to enhance their CAD drafting techniques. Assignments may require the use of AutoCAD Architecture, SketchUp, and REVIT. Students are encouraged to download free (or low-cost) versions of this software to use at home, and to make use of free tutorials and YouTube videos to become proficient with these programs.***

**NOTE: Classroom Policies** are available at [frontdoor.valenciacollege.edu/?aray](http://frontdoor.valenciacollege.edu/?aray)

Submission of your first assignment is considered proof that you have read, understand, and accept the classroom policies as published online.

**Major Topics/ Concepts/ Skills/ Issues**

* Introduction to the standards and terminology used in the design and construction of residences in North America, with some discussion of historical context and styles.
* Examine the issues involved in designing residential spaces for sleeping, living and service areas, including the specifics of planning baths, kitchens, stairs, and indoor/outdoor living spaces that meet building codes.
* Fundamentals and application of industry accepted 2D CAD program(s) for residential design, emphasizing proper line-weights and text placement, with introduction of BIM (Bldg. Info. Modeling) and 3D visualization.
* Explore the terminology and systems involved in foundations, floors, walls, and roof framing, and integrate these components into drawing plans, elevations, and details.
* Learn specific industry standards related to doors, windows, stairs, and fireplaces.
* Fundamentals of residential electrical, plumbing, and mechanical systems and plans.

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| **CRN 30184**  **- TAR1120C Architectural Drawing Summer 2022 Schedule \****\*subject to revision by Instructor during semester* |
| ***Unit***  | ***TOPIC*** | ***Homework Assignments - Optional*** | ***Reading*** |
| **1** | Introductions; Ch. **1** –Architectural Styles**2** – Basic House Designs**4** – Drwg. Instruments(Media) Sketching*American House (design styles)* | Traffic Circulation Review use of Architect’s scale***Start gathering portfolio photos.*** | Ch. 1, 2, 4, 6 & 8*Skim* 3, 5 |
| **2** | **6** – Primary Considerations (Land)**8** – Sleeping Area/Bath; **SketchUp****7** – Living Area & **9** – Service AreaDemonstrate use of graphic scale for plans***Kitchen sketch (on board) in class*** | Basic Areas; ***Bath layout*** *(REVIT or SketchUp)****\*\*\* Select a small residential plan***Living Room, Dining Room, Kitchen Planning ***Kitchen CAD (AutoCAD Arch.*** *or* ***REVIT)*** | 7, 9, 14, 16 |
| **3** | **16** – Site Plans; review use of scales**14** – Floor Plan; start Site Plan A101Dimensioning Floor Plans (similar to 18-2) | Bearings, Property Lines& Contour Lines; ***A101 Site Plan (REVIT)*** | 15, 18 |
| **4** | **18** – Footings/Foundations**15** – Foundation Plans; **23**- Elevations | Foundation types of Piers; Slab Foundation, Stemwall/Crawl Sp. ***A102 Foundation Plan (REVIT)*** | 10, 11, 12, 13 |
| **5** | **10** – Health/Safety; **11** – Sustainability**13** – Remodeling/Renovation; **12 - BIM**Lab Time - review drawing progress | ***Continue work on drawings*** | 19, 20 |
| **6** | **19** – Sill & Floor Construction**20** – Wall & Ceiling Const.**DRAWINGS DUE:** ***A101 Site Plan,*** ***A102 Foundation Plan & Kitchen Cad*** | Wall Section Parts, Wall Framing Terms. Complete drawings**Review for Mid-Term** |  |
| **7** | **MID-TERM EXAM****Intro to REVIT interface, wall tools** | YouTube tutorials on REVIT***Begin REVIT -******grid, slab/edge*** | 21, 22 |
| **8** | Review Mid-Term results;**21** – Doors & Windows; **22** – Bldg. Sections***REVIT –******wall types, doors/windows*** | Plan View Doors & Windows  | 17, 24, 25 |
| **9** | **24** – Stair Details**25** – Fireplaces, Chimneys, Stove Details**17** – Roof Designs; ***REVIT Roof demo*** | Stair Parts; Fireplace Parts; Roof Framing Parts***REVIT***  | 29, 30, 31 |
| **10** | **29** – Residential Electrical**30** – Electrical Plans**31** – Residential Plumbing**PORTFOLIO DUE** | Electric Loads; Water Supply, Waste Removal, ***Set up REVIT sheets******REVIT dimensioning/notations*** | 32, 33, 34, 35 |
| **11** | **32** – Plumbing Plans**33** – Residential Climate Control**34** – Climate Control Plans**35** – Residential Specifications | Piping Arrangements. Heat loss Reduction ***Complete REVIT Drawings***Review notes & graded workbook sheets |  |
| **12** | **DRAWINGS DUE:** ***export REVIT dwf*** | *Review for Final* |  |
| **Final** | **Course wrap-up and FINAL EXAM** |  |  |