

**Construction & Civil Engineering Technology (CCET)**

**Division of Engineering, Computer Programming & Technology**

**West Campus Building 9, Room 140 (407) 582-1902/1903**

www.valenciacollege.edu/west/engineering/

**CRN 33531** **SESSION: Summer 2022 on Campus**

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**Course Syllabus** *for* **BCN 1303C Building Information Modeling (REVIT w/ Dynamo)**

**Course Description** *(From the Valencia Catalog):*

This course will prepare students with the Building Information Modeling (BIM) skills needed to develop digital designs using REVIT software with Dynamo. Students will learn to create and modify various building elements, envelope systems, and detail features to create a complex model and produce the drawings needed for construction. Emphasis will focus on navigation and analysis of 3D models with Dynamo visual programming tools to expedite the design process. Students will also utilize software tools to discover discrepancies and make changes to ensure a smoother construction process for those performing the work.

**Class Meetings:** **Thursday nights 6:00 – 8:30 PM on West Campus, Building 9 Room 204 (Mixed-Mode)**

**COVID Protocols:** In compliance with **Valencia College Phase 4 Returning to Campus** mandates,students will be encouraged to **wear masks** and **maintain 6’ social distancing** whenever possible. The labs will be **sterilized** prior to the class meeting and every other computer station has been reserved to ensure safe separation of students as they learn the REVIT software.

**Text:** **SolidProfessor REQUIRED.** Purchase **4-year license key** on **first login to CANVAS** assignments. **DO NOT purchase from company website.**

For those that prefer physcial texts, this book is recommended as a **reference:**

***Mastering Autodesk Revit 20xx for Architecture:*** by Kim/Kirby/Krygiel (see latest edition), published by John Wiley & Sons, Inc, Indianapolis, Indiana.

**Materials: Computer with CADD capability – contact instructor for info on loaner laptops.**

Without a high-end graphics card, **Mac** computers have issues with Dynamo.

Install Revit 2022 w/Dynamo (refer to AutoDesk website for free student accounts)

**Instructor Information:**

Name: **Andrew Ray**

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

Email: **ARay**@valenciacollege.edu

Office Hours: Virtual help is available – see schedule on Faculty FrontDoor

**Student Performance Assessment:**

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

**Grading scale:** 90 - 100% = A **Grade Procedure:** Quizzes = 10%

80 - 89.9% = B In-class Participation = 05%

70 - 79.9% = C REVIT Assignments = 30%

60 - 69.9% = D Mid Term (REVIT) = 15%

0 - 59.9% = F Dynamo Assignments = 15%

Dynamo Project = 15%

Final Exam (Dynamo) = 10%

*TOTAL = 100%*

**Classroom Policies** for this class are published on this Faculty Front Door site:

<http://frontdoor.valenciacollege.edu/syllabi.cfm?uid=aray>

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

***Late Work:*** one week late -5%; 2 weeks -10%; more than 2 weeks: not accepted.

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| **BCN1303C Summer 2022 Schedule\***  *\*subject to revision by Instructor during semester* | | | |
| ***Week*** | ***TOPIC*** | ***In class*** | ***Homework:*** |
| 1 | Student introductions;  **Intro to REVIT;** ribbon, layout and file set-up | * Google drive * REVIT ribbon, properties & browser * Site layout exercise * Property boundaries & topography | Install Revit at home  **Watch video tutorials** |
| 2 | **Site features** and **sheet set-up** | * Topo sub-regions & parking * Site elements – trees, entourage, North arrow * Tutorial review & setting up sheets | Complete/Print:  **A101 Site Plan** |
| 3 | **Floor** and **slab edge** | * Floor tool: span direction & slab edge * Duplicate element, rename and edit assembly * Changing materials: defaults & asset browser | Complete/Print:  **A102 Foundation Plan** |
| 4 | **Walls, doors,** and **windows;**  **Sections and interior elevations** | * Duplicate and edit wall types * Duplicate and edit doors and windows * Creating wall sections and building sections * Creating interior elevations and camera views | Continue drawing |
| 5 | **Appliances, cabinets, fixtures, ceilings, lighting** | * Placing appliances, cabinets, and fixtures * Ceiling configuration, aligning grid * Placing lighting fixtures | Complete/Print:  **A103 Floor Plan** |
| 6 | **Curtain-walls** and **storefront** | * Curtain walls and store fronts * Storefront details, curtain-wall doors | Complete/Print:  **A201 Elevations** |
| 7 | **Detail components, material libraries,** and **creating families** | * Add detail components to wall section * Use Keynote to identify materials * Modify materials from library * Create a unique family | Complete/Print:  **A301 Sections** |
| **8** | **EXAM on REVIT**  Intro to **Dynamo** | * REVIT EXAM * Dynamo Primer: Interface, terms * Download third-party packages | Watch video tutorials on Dynamo; download external packages |
| 9 | **Creating REVIT geometry w/ Dynamo**  **Creating lists, lacing**  **and transposing lists** | * Construct script to create simple geometry * Create list; transpose order * Understanding lacing | Exercises + Challenge |
| 10 | **Creating REVIT family elements; Propose**  **Final Project** | * Using given REVIT file create elements * Review example projects | Exercises + Challenge |
| 11 | **Complete final project** | * Trouble-shooting scripts * Review for Final exam over Dynamo terms | Complete Project |
| **12** | **FINAL - PROJECT** | ***Final Project Submittal and Online Presentation***  ***Thursday July 28 @ 7:00 PM*** | Take Final Exam online by Tuesday Aug 2 9PM |