

## **CIVIL ENGINEERING & ARCHITECTURE:**

### **COURSE OUTLINE & EXPECTATIONS:**

#### **GENERAL EXPECTATIONS:**

That you will be on time, bring needed materials, and follow directions closely

That we will use our time together wisely, carefully and productively

That you will do the best you can on all assignments, projects, and tests

That you will treat others the way you want to be treated-always

That we will never accept disrespect from you toward me or any other student-ever

#### **COURSE OUTLINE:**

1. Overview of Civil Engineering and Architecture
2. Tools and materials needed to build professional looking models of building designs
3. Decisions and planning needed to create a residential architectural design
4. Terms and components used in structural engineering
5. How soil is classified according to its component characteristics
6. Solve a water supply problem for a township
7. Creating boundaries and property lines, surveying skills
8. Creating furniture using Autodesk Revit
9. Create an electrical plan for a residence using Autodesk Revit
10. Types of foundations, footings, piers, pilings, and slabs

#### **REQUIREMENTS:**

Students will produce a wide variety of design ideas using freehand sketching and Autodesk Revit software. Students will design various structures from the ground up including surveying and laying out the site, planning the foundation, floor plans, elevations, electrical, plumbing, and heating ventilating and air conditioning plans.