**Tompkins Cortland Community College**

# Master Course Syllabus

**Course Discipline and Number: DRAF 118** **Year: 2018-2019**

**Course Title: Architectural Drafting II** **Credit Hours: 3**

***Attendance Policy:*** *To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. It is the responsibility of all instructors to distribute reasonable attendance policies in writing during the first week of class. Students are required to comply with the attendance policy set by each of their instructors. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors. See college catalog for more information.*

***Services for Students with Disabilities:*** *It is the College's policy to provide, on an individual basis, appropriate academic adjustments for students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the Coordinator of Access and Equity Services, to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.*

## Course Description

This course is a continuation of DRAF 117. New material to be explored includes electrical, plumbing and HVAC systems, building code requirements, site considerations, and basic concepts of residential planning, and alternate energy systems. Using techniques developed in various software programs, students develop site and system plans, research alternative energy and new technologies in the construction industry, and develop and demonstrate team work and presentation skills. Prerequisites: DRAF 117 or equivalent; MATH 090 and RDNG 099 if required by placement testing; ENGL 099 or prior completion or concurrent enrollment in ESL 120, 121, and 122 (or prior completion of ESL 103) if required by placement testing. 3 Cr. (2 Lec., 3 Lab.) Spring semester.

## Course Context/Audience

Architectural Drafting II is a required course for students in the Construction Technology A.A.S. degree program and the Building Construction certificate program. However, any student who has an interest in architectural or construction related drafting and meets the prerequisite is welcome to enroll.

## Basic Skills/Entry Level Expectations

**Writing:** W2 Student should have completed ENGL 099 (if needed). The course requires short written responses and/or short papers without documentation, particularly personal reflection or narrative.

**Math:** M2 Completed MATH 090 (if needed) - Course requires only the use of basic mathematical skills.

**Reading:** R2 Before taking this course, students must have a C or better in RDNG 099 or assessment indicating that RDNG 099 was not required.

## Course Goals

1. HVAC: the student will be introduced to the theory of heat transfer as it relates to building construction. This theory will be applied to the building design which will be assigned during the semester.

2. Electrical service: the student will study the electrical concepts which apply to the design of electrical distribution systems for residential structures. He/she will follow the NEC in calculating building loads and circuits.

3. Plumbing systems: the student will understand the requirements for water supply and disposal systems for residential units and apply the NYS Code to building design.

4. Location plans: the student will understand the requirements for survey and site plans including the development of elevation contours from survey data.

5. Residential design: the student will be introduced to the basic concepts of residential design. ( Note: This coverage will not result in competence in design.)

6. Architectural drafting project: each student will complete a major drawing project using most current AutoCAD edition available.

## Course Objectives/Topics

| Objective/Topic | % Course |
|---|---|
| Drawing systems/organization: The student will be able to organize a complete set of working drawings including cross referencing. | 6.6% |
| Elevation drawings: The student will be able to create exterior elevation drawings. | 6.6% |
| Heat transfer: The student will understand the concept of heat transfer as it relates to building construction and be able to calculate loss/gain for the semester design project. | 13.2% |
| Heating/cooling systems: The student will understand the advantages and disadvantages of common heat distribution systems. | 6.6% |
| Air conditioning: The student will understand the reasons for and methods of conditioning air including filtration, humidification and dehumidification. | 6.6% |
| Building Codes: The student will be familiar with the basic requirements of the NYS Building Construction code and be able to apply it to the semester project. | 13.2% |
| Location plans: The student will be able to describe the various types of location plans and be able to create a site plan for the semester project. | 6.6% |
| Electrical theory: The student will understand basic electrical theory as it applies to residential distribution systems. | 13.2% |
| Electrical load calculation: The student will be able to calculate the required service entrance for the semester project. | 6.6% |
| Electrical plan: The student will be able to create the electrical plan for the semester project. | 6.6% |
| Plumbing – supply: The student will be familiar with the code requirements for a residential water supply system. | 6.6% |
| Plumbing – disposal: The student will be familiar with the code requirements for a residential sewer system including private disposal methods. | 6.6% |

**General Education Goals - Critical Thinking & Social/Global Awareness**

| CRITICAL THINKING OUTCOMES | HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes) |
|---|---|
| Students will be able to<br>➢ develop meaningful questions to address problems or issues.<br>➢ gather, interpret, and evaluate relevant sources of information.<br>➢ reach informed conclusions and solutions.<br>➢ consider analytically the viewpoints of self and others. | |
| **SOCIAL/GLOBAL AWARENESS OUTCOMES** | **HOW DOES THE COURSE ADDRESS THE OUTCOMES** (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes) |

| | |
|---|---|
| ➢ Students will begin to understand how their lives are shaped by the complex world in which they live.<br><br>➢ Students will understand that their actions have social, economic and environmental consequences. | |

**Instructional Methods**
1. Lecture: lecture should be used sparingly in those topic areas where it is the most effective tool.
2. Discussion: discussion should be employed wherever possible as the preferred method.
3. Individual instruction: the instructor should work one-on-one with students during lab periods.

**Methods of Assessment/Evaluation**

| Method | % Course Grade |
|---|---|
| Drawing projects | 50% |
| Exams | 40% |
| Observation | 10% |

**Text(s)**
No resources specified

**Bibliography**
American National Standards Institute. ANSI Drafting Standards. NY, NY.
AutoCAD R*yyyyy* Documentation, most current available edition.
Architectural Graphic Standards – most current available edition.

**Other Learning Resources**

| |
|---|
| **Audiovisual**<br>No resources specified |
| **Electronic**<br>No resources specified |
| **Other**<br>No resources specified |