Alexandria Technical College
1601 Jefferson Street
Alexandria, MN 56308

August 22, 2010
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IDES1634
Building Construction & Codes
(3 Credits / 3 Lecture)

Course Description:

Students will be able to identify housing components and historic housing styles. Students learn the language of building from site plan through all the structural materials (woods, concrete, metal, and glass) and their applications. Mechanical systems are studied as an integral part of construction. Applications of appropriate federal, state, and local codes and restrictions are included.

Course Learning Outcomes:

1. Given training for course objectives 1-16, the learner will demonstrate the application of appropriate major model codes and restrictions for the residential and non-residential build environment as it pertains to the health, safety, and welfare of the occupants.

2.Given training for course objectives 17-36, develop understanding of the site and all systems of construction from the footing and foundation to roof systems plus the mechanical systems.

3. Given Training for course objectives 37-47 the learner will identify alternative and sustainable building processes.

4. Given training for course objectives 48-60, the learner will develop and apply the vocabulary of building materials and identify historic housing styles.

Text and References:

NKBA, RESIDENTIAL CONSTRUCTION. ISBN #1-887127-51-8.

NKBA, KITCHEN AND BATH SYSTEMS. ISBN #1-887127-52-6.

Harmon, Sharon, THE CODES GUIDEBOOK FOR INTERIORS TEXT, 4th Edition, John Wiley & Sons. ISBN #978-0-4701-4941-6.

Harmon, Sharon, CODES GUIDEBOOK FOR INTERIORS STUDY GUIDE 4th ed, J. Wiley, ISBN# 978-0-4701-4940-9.

Kicklighter, ARCHITECTURAL RESIDENTIAL DRAWING & DESIGN 10th ed. Rev, Goodheart/Wilcox, 2004. ISBN #978-1-5907-0699-2.

The instructor will provide reference materials, handouts and readings.

Contributions by Learner:

The learner will be expected to:

1. Attend all lectures.
2. Participate in class activities and discussions.
3. Earn at least 70percent of exam points to pass.
4. Hand in outside assignments properly completed when due.

Course Objectives:

The following list of course objectives, directly related to the Course Learning Outcomes, will be addressed.

1. Identify major model codes
2. Research THE INTERNATIONAL CODE COUNCIL (ICC)
3. Research the international Building Code (IBC)
4. Identify contrast and compare codes like OTFDC
5. Research International Residential Code (IRC)
6. Research energy codes.
7. Research life safety codes (LSC)
8. Research International Fire Code (IFC)
9. Identify standards organizations
10. Research Performance Codes
11. Research Plumbing Codes
12. Research Mechanical Codes
13. Research Electrical Codes
14. Using codes in the programming /Pre-design phase
15. Identify testing agencies (UL)
16. Decipher Prescriptive Codes
17. Define and read plot and site plan.
18. Define footings foundations vocabulary.
19 Analyze foundation plan..
20 Identify foundation types.
21 Label sill/floor construction vocabulary and elements.
22 Analyze balloon framing construction.
23 Analyze platform framing construction.
24 Define load bearing interior wall construction.
25 Define non-bearing portion construction.
26 Identify interior and exterior wall finish methods.
27 Label typical wall construction.
28 Define and identify roofing systems/truss styles and vocabulary.
29 Define door vocabulary.
30 Define window vocabulary.
31 Define stairway vocabulary and code restrictions
32 Define plumbing plan.
33 Define electrical control vocabulary.
34 List electrical plan components and symbols.
35 Define HVAC climate control vocabulary.
36 Identify fireplace components/parts.
37. Research alternative building methods
38 Research alternative energy production methods, net zero
39. Identify sustainable building products
40 Develop a resource file of sustainable building products.
41 Compare R values of insulation
42 Compare U values of windows
43. Identify reduction of construction waste.
44. Identify recycling and reuse methods in the building process
45 Design a child's playhouse using recycled building products and sustainable products
46. Create drawings for the recycled, sustainable playhouse.
47. Source materials for the recycled, sustainable playhouse.
48. Define the vocabulary of style identifiers.
49 Analyze pre-colonial building styles.
50 Survey housing styles from colonial era.
51 Survey the Federal/Classical Period.
52 Survey housing styles of the Eclectic Period.
53 Survey International Period of housing styles.
54 Analyze current housing trends in site built housing.
55 Analyze manufactured housing methods.

IF ALL CONTENT CANNOT BE ADDRESSED, SELECTED COURSE OBJECTIVES MAY BE DROPPED AND A FULL EXPLANATION WILL BE GIVEN TO THE LEARNER. LEARNERS WHO HAVE A DISABILITY WHICH MIGHT AFFECT THEIR PERFORMANCE IN THIS CLASS ARE ENCOURAGED TO SEEK HELP FROM THE INSTRUCTOR AT THE BEGINNING OF THE SEMESTER.

56 Develop housing styles research project.
57 Compile examples of 3housing styles.
58 Write description of major identifiers of each style.
59 Organize housing styles by category.
60 Prepare a reference manual of research project.

Course Evaluation:

Course evaluation includes two components. 1) Learning will be assessed by rating proficiency in the Course Learning Outcomes. 2) Grades will be awarded as a letter grade A-F based on points earned from assignments, quizzes, and exams.
A=100-90%, B=89-80%, C=79-70%, D=69-60%, F=59% and below