COURSE TITLE: Materials & Methods of Construction - Basic Structure

COURSE NUMBER: BCN 1214

COURSE DESCRIPTION (with prerequisites):
This course examines how various materials and construction methods associated with: site construction; concrete; masonry; metals; and wood & plastics (Master Format sections 1 -6), affect the construction cost, total life, and maintenance cost of a building. The merits of new materials and methods are introduced and compared to existing products and methods. The major focus will be from a builder perspective emphasizing proper installation procedures and processes. 3 semester credit hours

NAME(S) OF INSTRUCTORS:
Olabode Ogedengbe, Workforce Development Building, Room 123, phone 718-2390, OgedengeO@chipola.edu

EFFECTIVE ACADEMIC YEAR:
2016-2017

REQUIRED TEXTBOOKS AND INSTRUCTIONAL MATERIALS:

GRADING POLICY:
The standing of a student in each course is expressed by one of the following letters and corresponding grading system:
A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less
The Chipola Catalog provides policies and procedures regarding the grading system. A student’s Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:
Chipola College expects regular attendance of all students, and all instructors record attendance daily. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.
A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

**MAKE-UP POLICY:**
Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

**ACADEMIC HONOR CODE POLICY:**
Students are expected to uphold the Academic Honor Code. Chipola College’s Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

**STUDENTS WITH DISABILITIES POLICY:**
Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola’s goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

**NOTICE OF EQUAL ACCESS/EQUAL OPPORTUNITY AND NONDISCRIMINATION:**
Chipola College does not discriminate against any persons, employees, students, applicants or others affiliated with the college with regard to race, color, religion, ethnicity, national origin, age, veteran’s status, disability, gender, genetic information, marital status, pregnancy or any other protected class under applicable federal and state laws, in any college program, activity or employment.

Karan Davis, Associate Vice President of Human Resources, Equity Officer and Title IX Coordinator, 3094 Indian Circle, Marianna, FL 32446, Building A, Room 183A, 850-718-2205, davisk@chipola.edu.

**LIBRARY AND ON-LINE REFERENCE MATERIALS:**
The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the LINCCWeb icon on the Chipola Library website at www.chipola.edu/library. If you have questions about database usage consult the “How to Use the Chipola Databases” on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.
TECHNOLOGY RESOURCES:
The college’s learning management system is Canvas. Classes become available on Canvas on the first day of the semester. It is the student’s responsibility to log onto the Canvas system the first day of class to establish the first day of attendance and to check announcements. All official class communication must be through Canvas. For further information, contact your instructor or the Director of eLearning. The Canvas support hotline is available online in live chat and on the phone, toll-free, at 855-308-2812 for any issues in accessing or utilizing Canvas. The Technology Center, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website.

FREE TUTORING RESOURCES:
The Academic Center for Excellence (ACE) Lab, located in Building L, offers free tutoring from 8 a.m. to 5 p.m. and is equipped with computer workstations. ACE lab hours are posted each semester at the room entrance and on the website. Additionally, Chipola College has contracted Smarthinking, a Pearson Company, for online tutoring services, accessible especially from 5 p.m. to 8 a.m. and weekends. Smarthinking can be accessed through Canvas.

ELECTRONIC DEVICE USAGE STATEMENT:
Classrooms should be free of all unnecessary distractions from the task of learning. Therefore, as a general rule, students should silence and avoid use of all electronic devices (laptops, phones, tablets, etc.) not being used for coursework. Consult first-day handouts for any specific policies related to the use of electronic devices in the classroom, as they may vary depending upon the nature of the course or the guidelines of the instructor. Faculty reserve the right to regulate the use of electronic devices and their accessories in class.

DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:
Explain proper material installation procedures.

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<tr>
<th>COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR BCN 1214</th>
<th>DISCIPLINE-SPECIFIC GENERAL EDUCATION COMPETENCIES</th>
<th>ASSESSMENT METHODS FOR COURSE LEVEL STUDENT LEARNING OUTCOMES</th>
<th>LEARNING ARTIFACTS FOR AA PROGRAM ASSESSMENT</th>
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<td>At the completion of the course, the student will be able to: 1. Identify and categorize various foundation systems. 2. Explain how to properly place concrete.</td>
<td>Demonstrate mastery of computer aided drafting (CAD) by constructing engineering, mechanical, and geometrical</td>
<td>Assessment methods used are: Q, UT, SD, SP, Proj, F</td>
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</table>
3. Describe what affects the strength and finish characteristics of concrete.
4. List masonry product options and advantages that each gives you.
5. Identify and categorize wood types and characteristics.
6. Compare installation practice and properties for metal and wood systems.
7. List and describe alternate systems for superstructure support.
8. Communicate with clarity and precision
9. Apply critical thinking through problem solving
10. Analyze and compare the merits of various existing products and methods.

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| Demonstrates ability to sketch, letter, and generate line-work to describe various objects. | Demonstrates ability to read and produce drawings involving orthographic projection, sections, pictorial and auxiliary views. | Demonstrates a wide range of mathematical skills including plane trigonometry, strength of materials, technical, and other engineering problems, including theories learned in engineering mechanics. |
| Demonstrates ability to use standard surveying equipment to make measurements and calculations to run a traverse, establish levels, keep notes and produce required drawings. | Demonstrates ability to analyze physical and mechanical properties of soil and concrete. | Demonstrates ability to solve basic hydraulic problems using the theory of incompressible |

| | | |
Demonstrate on-site skills required to establish grades, locate property lines and utilities and produce plots and calculate cut and fill by average-end-area.

**Assessment Codes**


**MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:**

Learning outcomes are determined by measuring the ability of each student to retain the learning objectives of the course. Performance-based methods, such as completion of assigned projects, general knowledge tests, oral and written presentations of assignments, group discussions, observation of mastery of critical skills and analysis of the final product will determine the final grade on this course.

**ASSIGNMENT AND/OR COURSE OUTLINE**

Course Activities

Construction Methods and Materials is lecture/discussion class combined with various field trips. Lectures will typically be followed by a field trip to observe the topic covered in class. Students will write a field trip report after each site visit.

- Field trips scheduled during class sessions are integral part of instruction. Students will wear a construction hard hat and safety glass when required on all field trips. Field trip will be announced by instructor at least one class meeting prior to the scheduled trip.

- Field trips reports and periodic out of class assignments will be made during the term. All written work completed outside the class will be type written. Grammar, spelling and neatness will be included as a portion of the grade.

- All written work will be type written and include the following:
  - A cover page with the project title, student’s name, and course name
  - The narrative portion will be in paragraph form
  - Footnotes in the narrative portion will give credit to periodicals, and other reference materials used.
Student research project will be completed on a topic selected by the student and approved by the instructor. Project consist of written and oral portion and are intended to include specific materials not included in the course topical outline. Oral presentations will be between 3 and 7 minutes and will be presented to the class during class sessions at a time assigned by the instructor. Poster and handouts are effective. Overhead projector sand Blue ray DVD player are available in the classroom.

Grading: Written exams and/or quizzes will be multiple choice, true/false, fill in the blank and/or discussion questions and will be completed in a class session. Eight (8) quizzes of equal weight will be administered during the semester. Students will be able to drop two (2) quizzes with the lowest grades.

Grade Distribution
Attendance and Participation - 10%
Job site and Field Trips Note - 10%
Quizzes - 40%
Final - 25%
Homework and Project - 15%

Outline

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<th>Week</th>
<th>method</th>
<th>Topic</th>
<th>Assignment</th>
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<td>1.</td>
<td>Lecture/ Discussion</td>
<td>Orientation &amp; course Outline</td>
<td>Syllabus &amp; Handout Chap. 1</td>
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<td>2. &amp; 3.</td>
<td>Lecture/ Discussion</td>
<td>CSI Format for specification General requirements</td>
<td>Chap. 2</td>
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<td>Construction sequence flow-chart</td>
<td>Handout</td>
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<td>Foundation and Site work</td>
<td>Job site visit note</td>
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<td>Excavation</td>
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<td>Designing Foundation</td>
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<td>Building code</td>
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<td>Lecture/Discussion</td>
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<td>4.</td>
<td>Wood : Lumber and wood products</td>
<td>Heavy Timber Frame Construction</td>
<td>Wood Light Frame Construction</td>
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<td>5.</td>
<td>Chap. 4 Job site visit note</td>
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<td>Chap. 6 Field Trip</td>
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<td>7.</td>
<td>Exterior &amp; interior Finishes for wood light construction</td>
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<td>8.</td>
<td>Brick Masonry Wall Construction</td>
<td>Masonry paving</td>
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<td>9.</td>
<td>Masonry and Building code</td>
<td>Chap 8 &amp; 9. Handout Field Trip</td>
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<tr>
<td>Week</td>
<td>Activity</td>
<td>Topics</td>
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| 10.  | Lecture/Discussion | Steel Frame Construction  
Fabric structures  
Building code | Chap. 11 Handout Site Note |
| 11.  | Lecture/Discussion | Light Gauge Steel Frame Construction | Chap. 12 Field Trip |
| 12.  | Lecture/Discussion | Concrete Construction  
Formwork and Framing system  
Precast Concrete Framing System  
Fastening to Concrete | Chap. 13 & 14. |
| 13.  | Lecture/Discussion | Roofing, Window & Doors  
Glass and Glazing | Chap. 15 Field Trip Site Note |
| 14.  | Job site | Interior and Exterior Finishes  
Claddings | Chap. 16 & 18 Chap. 17. |
| 15.  | Lecture/Discussion | | Chap. 19, 20, & 23 |
**Late Quiz Policy Note:**
Both quiz 1 and quiz 2 are announced in advance and must be taken at the specified time. If you miss a quiz, you must arrange a make-up date with your instructor. There will be a grade reduction unless you meet one of the following:
1) Discussed with and agreed to by instructor in advance
2) Have special circumstances or emergency situation

**Attendance:**
Mandatory. Each student is expected to attend all classes and maintain proper punctuality. Exceptions granted for extreme emergencies or arrangements that have been made in advance with your instructor.

If you do miss a class it is your responsibility to obtain and learn the missed information

**NOTE: If you feel you need to drop the class please see me first!**

**Please turn off or put in silence mode all cell phones**

The instructor reserves the right to modify this schedule for the benefit of the class as he may evaluate. Any changes will be communicated to the class in advance of the change to give every student a chance to comment and make adjustments and via student Chipola College e-mail.

Every attempt must be made between the student and instructor to resolve any issues related to this class. In the very rare situation that an issue is not resolved in this fashion please contact the Dean of Workforce Development, Mr. Darwin Gilmore, 718-2270 or GILMORED@chipola.edu and provide all the documentation and explanation of your efforts to resolve the issue.

See your Instructor First Day Handout for individual instructor assignment schedule.