

## CNET 2180 – Building Construction Techniques

3 Credit hours

Sections 001/101/102/103 – Spring 2020 Syllabus

INSTRUCTOR Aloysius (Al) Attah, Ph.D., P.E.		EVALUATION	
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<b><u>Lecture Meetings</u></b> <b>Room: NTDP B155</b> Mon. & Wed.- Section 001: 11:30 a.m. – 12:50 p.m.  <b><u>Laboratory Meetings</u></b> <b>Room: D155</b> Mon. – Section 101 01:00 p.m. – 03:50 p.m. Tue. – Section 102 10:00 a.m. – 12:50 p.m. Tue. - Section 103 02:30 p.m. – 05:20 p.m.  <b>Office Hours</b> <b>Mon/Wed:</b> 10:30 a.m. – 11:30 a.m. <b>Tue/Thu:</b> 01:00 p.m. – 02:00 p.m.  <b>Other Times:</b> By appointment		Assignments	25%
		Midterm	25%
		Final Exam	25%
		Lab Project/Presentations <i>(Must stay for/ contribute to the entire lab)</i> <i>Grade is a function of attendance/ Participation)</i>	25%
		<b>TOTAL</b>	<b>100%</b>
		<b><u>Letter Grade</u></b> A = 90 – 100 B = 80 – 89 C = 70 – 79 D = 60 – 69 F = 0 – 59	

### COURSE DESCRIPTION:

Contemporary techniques used in the construction industry; nature, use and characteristics of materials; construction methodology, application and sequencing in the building process. Course will include hands-on construction of a scale model of a building.

An evaluation is made available to you at the end of the semester for all organized classes at UNT, providing you a chance to comment on how this class is taught. UNT Provost office encourages your participation in this survey.

**PREREQUISITES:**

CNET 1160

**REQUIRED TEXTBOOKS:**

- A) Printreading for Residential and Light Commercial Construction " 6th Ed by Thomas Proctor, Leonard Toenjes. American Technical Publishers, Inc. ISBN 9780826904843

**RECOMMENDED TEXTBOOK:**

- B) "Construction Materials, Methods, and Techniques: Building for a Sustainable Future" by Eva Kultermann;/William P. Spence: Delmar/Cengage Learning; Fourth edition; 2016:ISBN 9781305086272

**SUPPLEMENTAL TEXTS AND MATERIALS:**

Architectural scale

OSHA Personal Safety Glasses required for Lab work

Additional supplemental materials will be given as handouts or web links in class/lab

**COURSE OBJECTIVES:** (TAC OF ABET Criteria and Program Educational Objectives Supported).

This course will provide the students with an understanding of terminology and basic process and methods used in the construction industry, along with an introduction to sustainability and "green building."

**COURSE OUTCOMES:** (ABET Student Outcomes addressed):

- #6 Selecting appropriate construction materials and practices (ABET #1: an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline).
- #2. Utilizing measuring methods, hardware, and software that are appropriate for field, laboratory, and office processes related to construction.

**STUDENT LEARNING OUTCOMES:** (Course Objectives Supported)

At the conclusion of this course, the student should be able to demonstrate ability for:

- Selecting appropriate construction materials and practices
- Using techniques for surveying, drawings, and mapping associated with building construction
- Utilizing modern surveying methods for construction layout

**INSTRUCTIONAL OBJECTIVES:**

Students who successfully complete CNET 2180 will be capable of the comprehension and application of construction materials and processes with respect to residential and commercial construction projects. "Real world" applications will be discussed in class.

Examinations will require detailed technical information as well as general knowledge of new processes, methods, and materials along with new trends in sustainability.

Presentations by the students will demonstrate the "hands-on" experience gained in the laboratory environment.

## **LEARNING STRATEGIES:**

Lectures, laboratory workshop, demonstrations, problem solving examples, student dialogue, student presentations, teamwork.

## **LABORATORY OUTLINE:**

- Students are required to provide and wear OSHA approved safety glasses and protective work-boots (over the ankle).
- Hard hats (provided by UNT) must be worn in the construction lab at all times.
- Adherence to safety rules and regulations is critical.
- Laboratory projects will follow a typical construction sequence as much as possible.

### Laboratory "Group Norms"

1. Assist and support team members in each other's learning and safety
2. Start and end on time
3. Leave the laboratory clean and all tools back in their storage places

### Lab Project /Presentations/Report:

- The lab project consists of playhouse construction which utilizes knowledge from CNET 1160.
- Each lab subgroup will make weekly presentations during lab sessions on activities to be covered in the lab for that week.
- Each lab subgroup will also make final project presentations.
- Students must participate in all the presentations to receive credit for all the presentations.
- The final lab report shall be written per Technical Writing guideline posted on Canvas.
- Each student's final project lab grade is a function of the student's lab attendance and active participation in constructing the playhouse.

***Note: The handout on "How to Build a Playhouse" is simply a guide.***

- *Students must consult with the lab manager and/or teaching assistant (TA) for potential changes to the playhouse design.*
- *Student shall not construct any part of the project without an approved plan from the lab manager or TA.*

## **COMPUTER USAGE:**

This depends on assignments which will include internet searches for materials and specifications, process examples, and other work as needed.

## **ORAL COMMUNICATION USAGE:**

Classes/labs will include presentation of solutions to classroom problems and/or assignments.

## **WRITTEN COMMUNICATION USAGE:**

All reports assigned as homework must be prepared professionally.

## **LIBRARY USAGE:**

Minimal usage is expected. Students are encouraged to utilize on-line resources, suggested supplemental texts and materials, and to provide examples of current relevant issues.

## **COURSE POLICY/GRADING:**

### Attendance

- Attendance will be taken at the discretion of the instructor.

### Assignments (Lecture/Lab):

- Assignments will consist of in-class exercises and homework. **If a student misses any in-class exercise for any reason, there will be no opportunity for a makeup.**
- There will also be homework assignments. Unless otherwise instructed, all homework assignments shall be typed double-spaced using **Times New Roman – Font 12.**
  - **Only one late homework assignment** will be accepted during the semester. It may be submitted any time within one week after it is due, but it will be graded at 50% penalty.

### Exams:

- There will be a midterm exam.
- A final exam will be given during the final exam period.
- Exams will be cumulative, covering all topics including:
  - All presentations and any topics discussed in class
  - Any chapters of the text noted in the course outline
  - Any work carried out to complete exercises, assignments, and the lab.

### Extra Credit:

- There is none.

**COURSE OUTLINE**  
(Subject to change)

Week of		Topic	Material/Assignment
Jan. 13	Lecture	Course Introduction / Review of Syllabus	<b>Handout:</b> How to Build A Playhouse– <i>A General Guideline.</i>
	Lecture	How to Build A Playhouse	B) Kultermann & Spence Chp.1 <b>Assgn. No. 1:</b> Summary of the most current CSI Master Format (1-2 pages). <b>Due:</b> Jan. 22. <b>Note:</b> This is an individual assignment
	Lab	<ul style="list-style-type: none"> <li>Identify <i>sub</i> teams</li> <li>Playhouse design/redesign expectations</li> </ul>	<b>Assgn:</b> Obtain architect's rule and OSHA approved safety glasses. <b>Due:</b> Week of Jan. 20.
Jan. 20	<b>Monday</b>	<b>MLK Day – University Closed: 1/20/2020</b>	
	<b>Wed. 1/22</b> Lecture	Permits and Engineering	Handout
	Lab	<b>Sub Teams:</b> Redesign the playhouse floor <b>if/as directed</b> by the Lab Manager/Teaching Assistant (TA)	<b>Assgn:</b> Watch any video of your choice on playhouse construction. Write a 1-2 page paper on the video. <b>Note 1:</b> Cite the source of the video. <b>Note 2:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Jan. 27 at the start of lab.
Jan. 27	Lecture	Print reading	A) Proctor & Toenjes Chp. 1 <b>Assgn. 2:</b> Summary of Print Reading (2-4 pages). <b>Note:</b> This is an individual assignment <b>Due:</b> Feb. 3
	Lecture	Submittals, Samples, and Shop Drawings	Handout
	Lab	Tool safety	<b>Assgn:</b> Tool safety certifications during lab. <b>Due:</b> Week of Jan. 27
Feb. 3	Lecture	Problem Solving Steps	Handout
	Lecture	Surveying Fundamentals	Handout <b>Assgn. 3</b>
	Lab	Start Construction of Playhouse <ul style="list-style-type: none"> <li>Use Option 1 for the floor construction</li> </ul>	Handout: How to Build A Playhouse A) Proctor & Toenjes Chp. 2 B) Kultermann & Spence Chp. 19 and Chp. 20 <b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Feb. 3 at the start of lab.
Feb. 10	Lecture	Surveying Mathematics	Handout
	Lecture	Tape Measurements	Handout

			<b>Assgn. 4</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Feb. 10 at the start of lab
Feb. 17	Lecture	Multifamily Dwelling – Plans A1.1	A) Proctor & Toenjes Chp. 6 Chp. 3
	Lecture	Multifamily Dwelling – Plans A1.3	A) Proctor & Toenjes Chp. 6 <b>Assgn. 5</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Feb. 17 at the start of lab
Feb. 24	Lecture	<ul style="list-style-type: none"> <li>• <b>TEXO Competition – Monday, Feb. 24</b></li> <li>• Multifamily Dwelling – Plans A1.3</li> </ul>	A) Proctor & Toenjes Chp. 6
	Lecture	Multifamily Dwelling – Plans A1.11	A) Proctor & Toenjes Chp. 6 <b>Assgn. 6</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Feb.24 at the start of lab
Mar. 2	Lecture	Multifamily Dwelling – Plans A1.12	A) Proctor & Toenjes Chp. 6
	<b>Wed. Mar. 4</b>	<b>Midterm Exam</b>	
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Mar. 2 at the start of lab
<b>Mar. 9 - Mar. 15</b>	<b>Spring Break</b>	<b>Spring Break</b>	<b>Spring Break</b>
Mar. 16	Lecture	Multifamily Dwelling – Plans A2.1	A) Proctor & Toenjes Chp. 6
	Lecture	Multifamily Dwelling – Plans A3.2	A) Proctor & Toenjes Chp. 6 <b>Assgn. 7</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Mar. 16 at the start of lab
Mar. 23	Lecture	Multifamily Dwelling – Plans A4.1	A) Proctor & Toenjes Chp. 6
	Lecture	Multifamily Dwelling – Plans A4.2	A) Proctor & Toenjes

			Chp. 6 <b>Assgn. 8</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Mar. 23 at the start of lab
Mar. 30	Lecture	Multifamily Dwelling – Plans A5.1	A) Proctor & Toenjes Chp. 6
	Lecture	Multifamily Dwelling – Plans A5.4	A) Proctor & Toenjes Chp. 6 <b>Assgn. 9</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Mar. 30 at the start of lab
Apr. 6	Lecture	Project Closeout: Punch Lists	Handout
	Lecture	Project Closeout: Substantial Completion	Handout <b>Assgn. 10</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Apr. 6 at the start of lab
Apr. 13	Lecture	Project Closeout: System Testing and Documentation	Handout
	Lecture	Project Closeout – Record/As-Built Drawings	Handout <b>Assgn. 11</b>
	Lab	Construction of Playhouse continues	<b>Assgn:</b> Submit approved design or redesign. <b>Note:</b> This is a <b>sub team</b> assignment. <b>Due:</b> Week of Apr. 13 at the start of lab
Apr. 20	Lecture	Playhouse Report / Presentations	
	Lecture	Playhouse Report / Presentations	
	Lab	Finalize As-Built Drawings for Playhouse	
Apr. 27	Lecture	Financial Resolution of the Project with a Focus on the Playhouse	Handout
	Lecture	Review for Final Exam	
	Lab	Clean up/Walk Through/Delivery	
<b>May 4</b>	<b>Final Exam</b>	<b>Monday, 08:00 a.m. – 10:00 a.m.</b>	

## OTHER POLICIES

Academic Integrity: <https://deanofstudents.unt.edu/academic-integrity>

This course will adhere to UNT academic policies, including those for academic integrity (<http://vpaa.unt.edu/academic-integrity.htm>) and overall conduct (<http://deanofstudents.unt.edu/conduct>). It is your responsibility as a UNT student to be familiar with these policies, but feel free to ask the instructor any questions pertaining to these.

### ADA Policy

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time, however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://disability.unt.edu/>. You may also contact them by phone at [940.565.4323](tel:940.565.4323).

### Important Notice for F-1 Students taking Distance Education Courses

#### Federal Regulation

To read detailed Immigration and Customs Enforcement regulations for F-1 students taking online courses, please go to the Electronic Code of Federal Regulations website at <http://www.ecfr.gov/>. The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f)(6)(i)(G).

The paragraph reads:

(G) For F-1 students enrolled in classes for credit or classroom hours, no more than the equivalent of one class or three credits per session, term, semester, trimester, or quarter may be counted toward the full course of study requirement if the class is taken on-line or through distance education and does not require the student's physical attendance for classes, examination or other purposes integral to completion of the class. An on-line or distance education course is a course that is offered principally through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing. If the F-1 student's course of study is in a language study program, no on-line or distance education classes may be considered to count toward a student's full course of study requirement.

#### University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.



If such an on-campus activity is required, it is the student's responsibility to do the following:

- (1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.
- (2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email [internationaladvising@unt.edu](mailto:internationaladvising@unt.edu)) to get clarification before the one-week deadline.

## **PRESENTATION GRADING GUIDE**

PRESENTER NAME \_\_\_\_\_ COURSE NAME \_\_\_\_\_

SEMESTER \_\_\_\_\_ PROJECT TITLE \_\_\_\_\_

EVALUATION TOPIC	POSSIBLE POINTS	COMMENTS
1. Subject Introduction	0 1 2	_____
2. Organization of Topics	0 1 2 3	_____
3. Clear Descriptions	0 1 2 3	_____
4. Emphasized Pertinent Information	0 1 2	_____
5. Quality and Effective Use of Visual Aids	0 1 2 3	_____
6. Effective Conclusion	0 1 2 3	_____
7. Composure and Speaking	0 1 2 3 4 5 6 7 8 9 10	_____
8. Effective Demonstration with a working model	0 1 2 3 4 5 6 7 8 9 10	_____
9. Project Technical Content	0 1 2 3 4 5 6 7 8 9 10	_____
10. Subjective Evaluation	0 1 2 3 4	_____
	Composite Score	_____

EVALUATOR'S COMMENT \_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## WRITTEN GRADING GUIDE

NAME \_\_\_\_\_ COURSE NAME \_\_\_\_\_

REPORT DATE \_\_\_\_\_ DUE DATE \_\_\_\_\_

PROJECT TITLE \_\_\_\_\_

EVALUATION TOPIC	POSSIBLE POINTS	COMMENTS
1. Objective	10	_____
2. Diagrams	10	_____
3. Expected Results	10	_____
4. Original Data Sheets	20	_____
5. Analysis of Results	10	_____
6. Conclusions	10	_____
7. Supportive Data	10	_____
8. Comments	10	_____
9. Professionalism signature	10	_____

Composite Score \_\_\_\_\_

EVALUATOR'S COMMENTS

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Evaluator: \_\_\_\_\_

Date completed: \_\_\_\_\_