

Hudson County Community College

Cost Estimation, CNM 225

Course: CNM IND. – 225

Course Title: Cost Estimation

Credit: 3

Instructor:

Day(s) and Time (s):

Location

Office Hours:

Office Location:

Email:

Course Description: Purpose of cost estimation, types of cost estimation and their utility, characteristics of good cost estimate, Types of contracts, Project stages and cost estimating and calculation methods, preliminary and final cost estimate, project accountings, external and internal cost accounting, project cost controls, estimates based on contract documents, labor time reporting, measurement of work quantities, methods of excavations, hauling cost of excavated material, cost estimates for the major items involved in construction of highways, foundations, cost estimation for concrete and steel structures and material involve, cost estimation for commercial and residential units within consideration of carpentry, masonry, roofing, installation of different kind of floors with finishing and painting system. Course also covers cost estimation for plumbing, electrical, sewerage and water distribution of residential/commercial construction.

Homework: Homework assignments are given every week.

Course Prerequisite: MAT 103, CSC -100

Student Learning

Outcome: Upon completion of this course, student should be able to:

- Understand basic concept of cost estimation.
- Understand different methods of cost estimation and their use in construction industry.
- Learn to calculate the cost of product and services.
- Acquire knowledge about the tools and techniques involve in general construction.
- Identify and understand drawings and contract documents.
- Identify the risk involves in decision making.

**Instructor will provide access to open-source material.
Lectures will be uploaded on the Canvas.**

Text Book: “Estimating Construction Cost” by *Robert L. Peurify & Gerold D. Oberlender, 6th Edition; ISBN#978-0-07-339801-3*

Book Purchase: These are the reference books only and will not be recommended to purchase; class notes and assignments will prepare the students to fulfill the intent of the course. Any student who has true financial need is eligible to apply for a book scholarship through the Office of the Dean of Students located at 70 Sip Avenue.

Attendance: The college policy is generally that a student may fail a course due to lack of attendance if s/he missed more than 8 hours of instructional time for a 3-credit course.

Grading Policy:

Final Exam	40 points
Midterm	30 points
HomeWorks	10 points
Attendance	10 points
Class Participation	10 points

You are required to attend all classes even if you get A in first two tests.

Breakdown of Grading:

100 - 94 = A	69 - 64 = C+
93 - 90 = A-	63 - 54 = C
89 - 84 = B+	53 - 50 = D
83 - 75 = B	Below 50 = F
74 - 70 = B-	

Cell Phone Use Policy: Cell phones should be on manner mode. In case of emergency, notify me and then leave. Leaving classroom for non-emergency calls will result a zero grade in one test. **NO texting during**

lectures or exams! Cell phones may NOT be used during exams

Mandatory Use of

HCCC Email Address: Members of the HCCC community are required to check their official HCCC email address in order to stay current with College and course communications. All college business communication between faculty, students, and staff must be sent via an official HCCC email address. If an employer or student elects to forward or link his/her HCCC email to a separate and private account, that individual remains responsible for all material transmitted to that account. Employees of HCCC shall not be responsible for any material that remains undelivered, due to defects in the private non-HCCC accounts. Failure in the operations of private email accounts shall not be cause for excuse from communications between the students and the employee. Students that encounter difficulty with HCCC email should view the FAQ's section on the Portal.

Incomplete:

An INCOMPLETE grade for the course is given under specific conditions when a student, because of serious and unexpected reasons, cannot complete the requirements of the course. For example, if a student did not attend the final because of illness his or her excuse must be verified by a physician. Other absences from other assigned activities must be made up at another appointed time. To arrange for an incomplete grade, the student must see the instructor before final exam, so proper documentations could establish and submitted to Division and The office of Academic Affairs.

Disability Support Services:

Students with disabilities who believe that they might need accommodations in this class are encouraged to contact Disability Support Services at (201) 360-4157, as soon as possible to better ensure that such accommodations are implemented in a timely fashion. All disabilities must be documented by a qualified professional such as a Physician, Licensed Learning Disabilities Teacher Consultant (LDTC), Psychiatrist, Psychologist, Psychiatric Nurse, Licensed Social Worker or Licensed Professional Counselor, who is qualified to assess the disability that the student claims to have and make recommendations on accommodations for the student. All information provided to the Disability Support Services Program will be confidential between the program, professors involved with the student, and individual student.

Academic Integrity Standards:

Academic integrity is central to pursuit of education. For students at HCCC, this means maintaining the highest ethical standards in completing their academic work. In doing so, students earn college

credits by their honest efforts. When they are awarded a certificate or degree, they have attained a goal representing genuine achievement and can reflect with pride on their accomplishment. This is what gives college education its essential value.

Violations of the principals of academic integrity include:

- Cheating on exams
- Reporting false research data or experimental results
- Allowing other students to copy one's work to submit to instructors
- Communicating the contents of an exam to other students who will be taking the same test
- Submitting the same project in more than one course, without discussing this first with instructor
- Submitting *plagiarized* work. *Plagiarism* is the use of another writer's words or ideas without properly crediting that person. This unacknowledged use may be from published books or articles, the Internet, or another student's work.

Violation of Academic Integrity:

When students act dishonestly in meeting their course requirements, they lower the value of education for all students. Student who violate the college's policy on academic integrity are subject to failing grades on exams or projects, or for the entire course. In some cases, serious or repeated instances of academic integrity violations may warrant further disciplinary action.

Detailed information on the College's Academic Integrity policy may found in the *HCCC Student Handbook*. The handbook also contains useful information for students on completing research projects and avoiding plagiarism.

Classroom Recording Policy at HCCC

Student Classroom Recording Policy

- Hudson County Community College prohibits the audio-visual recording, transmission, and distribution of classroom sessions. Classes may only be recorded with the advance written permission of the instructor. The Hudson County Community College classroom recording policy must be listed in all syllabi.
- All classroom recordings can only be used for academic purposes by students enrolled in that class. Recordings may not be shared, reproduced, or uploaded to public websites or other mediums, and these recordings may contain copyrighted material and are prohibited from any form of commercial use.

- All students and guests must be informed that the class may be recorded. Due to issues related to privacy and the possible inhibition of student participation, instructors should be mindful of the effects of permitting classroom recording.
- Instructors should retain electronic or paper copies of their written consent to grant classroom recordings.
- Students must destroy their recordings at the end of the semester.
- Students who are granted permission to record their class by the office of Disability Support Services should inform the instructor beforehand and are subject to the policies outlined in this document.
- Violation of this policy is subject to disciplinary action listed under the code of conduct as included in the Student Handbook.

Instructor Classroom Recording Policy

- Instructors may record their classes if students are informed in writing in advance that recording will take place. Instructors may distribute their own lectures, but this must be limited to the lecture portion of the class. Recordings of student presentations or activities may be used in the class if the students are notified in advance of the recording. Recordings of student presentations or activities may not be distributed in any way without the advance written consent of the students.

Successful people access support from others when needed. Hudson County Community College has many supportive services available to help you meet your goals. You are encouraged to contact your instructors or other professionals on campus. Below are resources available to you.

IN AN EMERGENCY, PLEASE CONTACT SECURITY or 911.

	Journal Square Campus	North Hudson Campus
<u>Counseling Services</u> counseling@hccc.edu	201-360-4150 A Building, Floor 2 https://myhudson.hccc.edu/advisement	201-360-4150 Enrollment Center, Floor 1 https://myhudson.hccc.edu/advisement
The National Suicide Prevention Lifeline: 1-800-273-8255 Crisis Text Line: Text HELLO to 741-741		
<u>Advising Services</u> advising@live.hccc.edu	201-360-4150 A Building, Floor 2 https://myhudson.hccc.edu/advisement	201-360-4150 Enrollment Center, Floor 1 https://myhudson.hccc.edu/advisement
<u>Career Development</u> career@hccc.edu	201-360-4181 A Building, Floor 3 https://myhudson.hccc.edu/career-development	201-360-4181 Floor 2, Room 204 https://myhudson.hccc.edu/career-development
<u>Disability Support Services</u> dss@hccc.edu	201-360-4157/4163 A Building, Floor 2 https://myhudson.hccc.edu/dss	201-360-4157/4163 Enrollment Services, Floor 1 https://myhudson.hccc.edu/dss
<u>Library</u> Journal Square librarian@hccc.edu North Hudson librarynhc@hccc.edu	201-360-4360 L Building, Floor 1 http://www.hccclibrary.net/	201-360-4605 Floor 3 http://www.hccclibrary.net/
<u>Tutoring Center</u> tc@hccc.edu	201-360-4187 Lower Level of Library Building https://myhudson.hccc.edu/tutoring	201-360-4623 Floor 5, Room 511 https://myhudson.hccc.edu/tutoring
<u>Writing Center</u> wc@hccc.edu	201-360-4370 J Building, Room 204 https://myhudson.hccc.edu/tutoring	201-360-4779 Floor 7, Room 703A https://myhudson.hccc.edu/tutoring/

Cost Estimation (CNM 225)

Tentative Course Schedule

- 1 **Introduction to the course**, grading policy, course requirements. Introduction to Cost Estimation, Bid documents; Role of estimation in construction industry, types of contracts, methods of cost estimations, estimating and construction safety

- 2 Estimating Process & preliminary Procedures; Estimating Process, Bidding Process, Contract's bidding documents, site visits.

- 3 Estimating, Labor & Equipment Cost; Labor rates, applicable taxes, Insurance and fringe benefits, Renting Vs Owning of equipment, Equipment and their depreciation, investment cost, equipment cost and operating costs.

- 4 Excavation, handling & transportation; Earthwork, sand and aggregate transportation, Pipes, lumber and other precast and fabricated material's transportation,

- 5 Equipment used for material transportation, various excavation methods, types of equipment used and calculating the rates, drilling & blasting and cost calculation.
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- 6 Highways & Pavements; Clearing & Grubbing, demolition and disposal, concrete pavements, construction methods, placing, finishing and curing of concrete, asphalt pavement, plants, aggregate, asphalt placement and compaction, equipment used, cost calculations

- 7 Foundations; types, footing, trenching, sheeting, pile types, driving, piling, different piling operations, jetting and putting piles in position, cost calculation
.

- 8 **Mid Term Test**

- 9 Concrete Structures; Cost of concrete structures, forming of concrete structures, types of labor trades use in different operations, scaffolds, reinforcing steel, types of reinforcement, placement, labor and equipment use, cost of reinforcement roofing shingles built up roofing, flashing types and labor, masonry, concrete and stone masonry
- 10 Carpentry, roofing flashing & masonry; Types of lumber and accessories used for installation, house framing and its components, rafters, trusses and decking, exterior carpentry, doors, windows and wall paneling, Floor System finishes and painting
- 11 Estimating cost of masonry, types of joints, mortar, estimating mortar quantity, brick types size and quantity estimation, laying cost of bricks
- 12 Steel Structures; types of steel structure, type of material, estimating the weight of the steel, connection required for steel structures, estimating cost of the steel structures, cost of preparing shop drawings, fabrication cost, required offsite inspections, erection installation, field painting, cost of labor& equipment.
- 13 Labor required, installation of fixtures, labor required, factors affect cost of wiring, item included in cost of wiring, rough electrical work and its cost, finish electrical work and its cost. CIVEC Proposal, project closeout and record keeping, As-Built drawings, archiving project records,
- 14 Plumbing & Electrical Wiring; plumbing requirements and compliance with the code, type of piping system, fittings, valves and traps, rough plumbing, cost of roughing, installation of fixtures,
- 15 Engineers estimate Vs. Contractor's estimate, cost escalation factors, factors impacting cost estimates, Project overrun costs, reasons for overrun the cost, averaging cost of other bidders

16 Course Review

17 Final Test