HUDSON COUNTY COMMUNITY COLLEGE

Surveying and Site Planning

Course: CNM-205

Course Title: **Surveying and Site Planning**
Credit: **3**

Instructor:

Day(s) / Time (s):

Location:

Office Hours:

Office Location:

Email:

Course Description: The purpose of this course is to give the student an overall and elementary understanding of construction site planning. The course will cover:

Introduction to steps and procedures of site planning. Topics include introduction to: site selection, site analysis for feasibility studies, surveying of the selected site, design plans, approval process, construction documents, owner, owner-architect, owner-construction manager, general contractor and subcontractors, plans and specifications, shop drawings, general and special conditions, types of contracts, bidding and awarding concepts.

Introduction to the elements of surveying. Topics included are how surveying interacts with other disciplines; measurement concepts, error consideration, accuracy, precision, methods for distance measuring; elevation measurements and leveling; measuring angles, bearings and azimuths with transits; traverses and traverse computations; basic topography and mapping; a field trip to a nearby construction project to review equipment site planning and surveying procedures; and a team project for steps involved in site planning and completion of a traverse and an as-built survey for construction site.

Homework: Homework assignments are given every week.

Presentation: An individual presentation on the directed topics will be prepared and presented individually. All presentations are graded.

Course Prerequisite: Take CSC 100 and CNM 120.

Student Learning Outcome: Upon completion of this course you should be able to:

- **Demonstrate** theoretical and practical knowledge of site development, measurements and errors, vertical and horizontal control methods, topographic, public land and construction surveys, use of surveying instruments.
- **Categorize/List** various steps involved in overall surveying process of a construction project.
- **Exhibit** theoretical knowledge of land surveying process.
- **Define and exhibit** technical knowledge of equipment and instruments used in surveying.
- **Show** knowledge of using modern measurement technologies to acquire spatial data.
- **An ability** to utilize surveying software to solve technical problems.

Text Book: **Proposed Student Texts.**

a. "Land Surveyor Reference Manual"

Author(s): Andrew L Harbin (3rd edition)

b. Land Development Handbook, the Dewberry Companies

Author(s): Sidney O. Dewberry

c. Class notes and handouts

Attendance: The college policy is generally that a student may fail a course due to lack of attendance if s/he missed more than 6 hours of instructional time for a 3-credit course.

Grading Policy:

1. Class attendance and class participation – 10%
2. Assignments – 20%
3. Project presentation - 10%
4. Midterm Exam: 30%
5. Final Exam: 30%

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-	

Safety in the Lab: Students are required to read the laboratory safety rules, ask any question they may have, sign and return the bottom part of safety rule sheet.

NO EATING or DRINKING in the lab.

I do not wish to see even any closed soda, juice, coffee, tea on the desk while we are in the Surveying lab.

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
Counseling Services 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		
Advising Services 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
Career Development 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
Disability Support Services 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
Library 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/
Tutoring Center 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
Writing Center 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/

Surveying & Site Planning

Tentative Course Schedule

1. Introduction to the course, grading policy, course Requirements. **Safety Rules** in the laboratory.

   Lecture 1, Introduction to maps and their uses, site planning, steps, methods, and procedures

   Class Room # 102, D- Building

2. Lecture 2, Site selection and analysis: Land use map, tax map, zoning map, site access, utility topography, soils, wetland, floodplain, storm water management.

   Class Room # 102, D- Building

3. Lecture 3, Basics of surveying: Types and classes of surveys, Plane table survey, Surveying instruments, Units of measurements, Location methods, accuracy and precision, errors and mistakes, accuracy ratio, stationing, field notes, field management.

   Class Room # 102, D- Building

4. Lecture 4, Measurement of Horizontal distances: Methods of linear measurement, types of measurement, chains, tapes, standard conditions for use of steel tapes, taping accessories and their use.

   Class Room # 102, D- Building

5. Lecture 5, Levelling: Definition, types of leveling staff, leveling operations, techniques of leveling, benchmark, profile and cross-section leveling, reciprocal leveling, peg test, errors in leveling, contours and their characteristics, various methods of contouring.

   Class Room # 102, D- Building

6. Lecture 6, Angles and Directions: Horizontal and Vertical angles, meridians, types of horizontal angles, azimuths, and

bearing, relationship between bearings and azimuths, Reverse direction, azimuth and bearings computations, magnetic declination, types of compasses.

Class Room # 102, D- Building

7. Lecture 7, Laboratory/ Field Visit: Field exercises utilizing classical and electronic instruments for measuring distances, levels, angles, and coordinates.

Laboratory/ Class Room # 102, D- Building

8. Lecture 8, Mid Term Examination

Class Room # 102, D- Building

9. Lecture 9, Electronic distance measurement: General principles of EDMI operation, EDM characteristics, EDM accuracies, geometry of EDM, electro- optical and microwave instruments, total stations.

Class Room # 102, D- Building

10. Lecture 10, Laboratory/ Field Visit: Using total station, surveying prism, leveling staff.

Laboratory/ Class Room # 102, D- Building

11. Lecture 11, Traverse survey: Open and closed traverses, latitude and departures, computation of error of closure, and the accuracy of a traverse, traversing with total station instruments.
Rules of adjustment, effects of traverse adjustments on the original data, computation of omitted measurements, area of closed traverse method, use of computer programs.

Class Room # 102, D- Building

12. Lecture 12, Calculations and examples for traversing, area, angles, bearing, and distances.

Class Room # 102, D- Building

13. Lecture 13, Laboratory: Using software for importing field data and adding details.

Laboratory/ Class Room # 102, D- Building

14. Lecture 14, Calculations and examples for traversing, area, angles, bearing, and distances.
Course Review

Class Room # 102, D- Building

15. Lecture 15, Final Examination

Class Room # 102, D- Building