University of Hafr Al-Batin
Civil Engineering Department
First Semester (172)

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Office hours: Sunday: 9:00 AM – 10:00 AM
Monday: 10:00 AM – 11:00 AM & 11:00 AM – 12:00 AM
Tuesday: 2:00 PM – 3.00 PM
Wednesday: 11:00 AM – 12:00 AM
Thursday: 1:00 PM – 1:50 PM
Or by appointment

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Office hours: Sunday: 11:00 AM – 12:00 AM & 1:00 PM – 2:00 PM
Monday: 1:00 PM – 2:00 PM
Tuesday: 11:00 AM – 12:00 AM
Wednesday: 09:00 AM – 10:00 AM
Thursday: 09:00 AM – 10:00 AM
Or by appointment

Course code	Title	Credit hours
CE 205	**Civil Engineering Drawing**	**3**

 Designation: Required

1. Course Description

The course focus on the following topics: Introduction to Computer Aided Design and Drafting, (CADD), 2D Drawings with AutoCAD includes Multiview Projection, Dimensions, Sections, Auxiliary Views, Free Hand Sketching, Mining and Civil Engineering Problems, Metallic Members and their Connections, Bearing and Slope of Lines and Planes, Contour Map Lines, Cut and Fill, Blue Print Reading, and 3D Drawings.

2. Textbook

i. . "A Course in Civil Engineering Drawing" 7th Edition. V.B. Sikka, CBS Publishers & Distributors
ii. Introduction to AUTOCAD (2017) for Civil Engineering Application by Nighat, Yasmin, SDC Publisher

3. Prerequisites

None.

4. Course Objectives

The overall learning objective of this course is to provide students with a deeper understanding of civil engineering drawings. Specifically, the course will:

   i.   introduce the students to the concept of computer-based drafting (lines, geometry, projections and perspectives) and their relevances to civil engineering profession.
  ii.   give the ability to draw lines, angles, regular polygon, orthographic and isometric drawings
 iii.   give the students ability to draw steel section and connections for civil engineering application
  iv.   allow the students to understand the concept of drawing the building drawings and sections
   v.   introduce the students to the concept of structural detailing and interpretations.

5. Course Outcomes (c,d,g,i,k)

After the successful completion of the course, the students should be able to meet the following requirements as the proofs of learning outcomes:

   a. Design and maintain civil engineering systems, components, or processes
   b. Function on multi-disciplinary teams to solve engineering problems relevant to civil engineering.
   c. Communicate effectively.
   d. Recognize the need for, and be able to engage in, life-long learning.
   e. Use the techniques, skills, and modern civil engineering tools necessary for engineering practice.

Course Objectives:
• To enable students to learn basics of general drawing and civil engineering drawing.
• To understand fundamentals of architectural, structural and survey drawings.

Learning Outcomes: At the end of this course, the student will:
1: Learn basics of both general engineering drawing and basic civil engineering drawings.
2: Understand the fundamentals of architectural, structural, survey drawings.
3: Have skills to (i) produce architectural and (ii) structural drawing details/layout.

6. Major Topics Covered in the Course

No.	Content	Chapter
1	General drawing principles, and introduction to computer aided drawing	1
2	Lines, polygons and	2
3	Tangency, Orthographic projection	3
4	Isometric drawings (3D drawing of shapes, images)	4
5	Introduction to Architectural drawing: tools, grid, units, scale, note and dimensioning principles	5
6	Free hand sketching: conceptualized drawings, 2D and 3D images	6
7	Structural detailing and sections: Slabs, Beams, Column and foundation drawings, Staircases and Bar bending schedule	7

8	Steel sections and Connections	8
9	Cut and fill or earthwork volume	9
10	Blue prints and 3D drawing	10

7. UOHB Rules and Regulations:

A. Attendance in the theory class:
Attendance in the class will be strictly observed starting from first day of classes. Students shall be warned after 4 and 7 inexcusable absences, however after 10 inexcusable or 14 total absences (excusable and inexcusable absences), DN grade shall be awarded. Students shall be solely responsible for his DN grade and its accompanied complexities.

	Number of unexcused absences			Total absences (excused* & unexcused)
	Warning I	**Warning II**	**DN**	**DN**
Lecture of course with 30 lectures /semester	**3**	**5**	**7**	**10**
Laboratory session	**1**	**2**	**3**	**4**

The followings should be noted

   i) Students must bring books, files with plane sheets attached, scale rule, drawing tools, notebook, calculator and pen to the class
   ii) Attendance in the classes will be taken within five minutes of the beginning of the class. **Student will be marked *late*, if he arrives after 5 – 10 minutes of the commencement of class period, and *absence with no excuse* if arrives after 10 minutes.**

*Note:
Officially authorized excuse of absences must be presented to the instructor **no later than two days** following the resumption of class attendance.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but not limited to the following practices:
- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Impersonation or taking an exam in proxy.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.

Class/Lab Rules
- Use of **mobile phones** (for phone calls, texting, *Facebook, WhatsApp, Instagram* etc) is **not allowed** during the class period.
- **Smoking, eating or drinking** is **not permitted** at any time.
- **Excuse** must be sought before going **out of the class** for any reason.

C. Assignments and Quizzes:

Problems or questions will be assigned on each chapter of the course. Students will be required to solve these problems and submit the solutions within one week.
- **No assignments will be accepted one week after** its due date.
- **There will be no makeup quizzes**.
- Students should make every effort to meet all announced deadlines. Any constraints to meet the deadline shall be reported to the instructor for him to determine whether an extension is reasonably required.

D. Communication
The students shall be constantly using the blackboard to communicate within themselves and the instructor. Students should check their e-mail daily to check whether there exists any special instructions or other information from the instructor.

Schedule of Work for CE 205, Civil Engineering Drawing

Week	Lecture	Subject	Section
1	22-Jan-2018	**Introduction to principles and instruments** Drawing sheet preparation, Instruments and types of line (centre, hidden e.tc) Lab 1: **Introduction to AutoCAD**	
2	29-Jan-2018	**Geometric Constructions** Bisections & equal divisions, Polygons Lab 2: **Geometric Construction**	
3	05-Feb-2018	**Tangency** Drafting definition of a tangent Lab 3: **Tangency with AutoCAD**	
4	12-Feb-2018	**Orthographic Projection and auxiliary view** Advantages of orthographic projection systems, 1st Angle Projection, 3rd Angle Projection, miter Line Lab 4: **Orthographic Projection with AutoCAD**	
5	19-Feb-2018	**Isometric view**: Oblique and isometric view Lab 5: **Isometric View with AutoCAD**	**Major 1 19th Feb, 2018**

Week	Lecture	Subject	Section
6	26-Feb-2018	**Introduction to basics of architectural drawings** Grid lines, material symbols, dimensioning, units scale, notes in civil engineering working and shop drawings, site layout Lab 6: **Introduction to basics of architectural drawings**	
7	05-Mar-2018	**Architectural drawings**: Plan. Elevation and side views, doors, window and opening representations, drawing details Lab 7**: Architectural drawings with AutoCAD**	
8	12-Mar-2018	**Free hand sketches** and representation of civil engineering construction materials Lab 8: Mid-Term Lab	**Mid Term Lab 12th March, 2018**
9	19-Mar-2018	**Structural detailing and sections**: Slabs, Beams, Column and foundation drawings, Lab 09: **Free hand sketches**	
10	26-Mar-2018	**Structural detailing and sections II**: Staircases and Bar bending schedule Lab 10: **Structural detailing and sections** I & **II with AutoCAD**	
11	02- April-2018	**Steel Section I**: Universal beam, universal column, equal and unequal angles, channel and circular sections… Lab 11: **Structural Steel Section I with AutoCAD**	
12	09- April-2018	**Steel Section II:** Welding, bolting, shear connection and splices Lab 12: **Structural Steel Section II with AutoCAD**	**Major 2 09th April, 2018**
13	16- April-2018	**Contour maps** Lab 13: **Contour of Land Survey with AutoCAD**	
14	23- April-2018	**Earthwork volume (Cut and Fills)** Lab 14: **Earthwork volume (Cut and Fills) and Blueprint and 3D printing in AutoCAD**	
15	30- April-2018	Blueprint and 3D printing Lab 15: Final Lab Exam	**Final Lab 30 April, 2018**
16-17		**Final Exam (Comprehensive)**	**Final May, 2018**

9. Schedule of Exams for CE 205: Civil Engineering Drawing

Examination	Major I	Major II	Mid-Term Lab	Final Lab Exam	Final Exam
Week No.	5	12	8	15	16-17
Date	19th Feb. 2018	09th April. 2018	12th March, 2018	30th April, 2018	10th May, 2018

Note:
1. Make-up exam will be given only in case of affected students have approved medical excuse authorized by the Student Affairs Unit and the University Rector
2. Any potential conflicts with other exams shall be reported **in advance** for adequate adjustment.

10. Class Schedule

2 x 50 min classes per week
1 x 170 min lab per week

11.   Assessment Plan for the Course

Assessment Policy:	Weighting:
Homework	05%
Term project	10%
First Major exam	10%
Second Major exam	15%
Final exam	15%
In Lab exercises	15%
Mid-Term Lab	15%
Final Lab Exam	15%
	100%

12. ABET Category Content

Engineering Science	10%	(0.3credit hours)
Engineering Design	65%	(1.95 credit hours)
Engineering computing	25%	(0.75 credit hours)

13. Mapping between Course Outcomes and Student Outcomes

Student outcomes / Course outcomes	a	b	c	d	e	f	g	h	i	j	k
1			✓	✓					✓		
2											
3							✓				
4											✓

Prepared/Modified by: Dr. M. O. Yusuf   **Date:** 19-12-2017