Course Description – Mechanics(Statics)

1. Course Name:

Mechanics(Statics)

2. Course Code:

STME241

3. Semester / Year:

First semester/ second Class / 2024-2025

4. Description Preparation Date:

1/2/2025

5. Available Attendance Forms:

Presence + on line

6. Number of Credit Hours (Total) / Number of Units (Total)

Theory (2 hours)- practice (3 hours) (5 hours)/ 3.5 units

7. Course administrator's name (mention all, if more than one name)

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8. Course Objectives

The student's familiarity with states of rest and the forces affecting bodies, through which he will have a broad understanding of the balance of bodies in a state of rest.

9. Teaching and Learning Strategies

- Interactive lecture
- Brainstorming
- Dialogue and discussion
- Practical exercises
- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theory	a1,a2: Remembers and understands the basics of statics	Basic concepts in statics	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Review some basic mathematics concepts related	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework

			to the topic		
2	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	forces on bodies and their analysis using drawing and vector methods	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
3	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	forces on bodies and their analysis using drawing and vector methods	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
4	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	forces on bodies and their analysis using scalar methods	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
5	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	forces on bodies and their analysis using scalar methods	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
6	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	Moments and couples resulting of concentrated forces on the body	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
7	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	Moments and couples resulting of distributed forces on the body	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
8	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	equilibrium of rigid bodies	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and	Solve problems	Interactive lecture,	Exams,

		analyzes the problem and forms the special relationships to solve it	related to the topic	brainstorming, dialogue and discussion, self-learning	homework
9	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	equilibrium of rigid bodies	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
10	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	friction	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
11	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	friction	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
12	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	centroid and center of gravity	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
13	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	centroid and center of gravity	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
14	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms the special relationships to solve it	moment of inertia	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework
15	2 Theory	a2: Understands the topic and then solve examples a2, c4,c3 ,a3: Understands and analyzes the examples and forms	moment of inertia	Interactive lecture, brainstorming, dialogue and discussion	Exams, homework

		the special relationships to solve it			
	3 Practice	a2, c4,c3 ,a3: Understands and analyzes the problem and forms the special relationships to solve it	Solve problems related to the topic	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Exams, homework

11. Course Evaluation

Theory	practice	Final Exam	Total
25% -Exams -Presence	15% - Exams - Homework	60%	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	مبادئ ميكانيك ، سعد الدين محمد امين ، الطبعة الاولى ، دار الكتب للطباعة والنشر-الموصل ، 1991
Main references (sources)	- Engineering Mechanics-Statics, R.C.Hibbeler, 13th ed., Pearson Prentice Hall, 2013. - Vector Mechanics for Engineers, by Beer,Johnstton, Mazurek, and Cornwell, 10th ed., McGraw-Hill, 2013.
Recommended books and references (scientific journals, reports...)	------
Electronic References, Websites	------

مدرس المادة العملي: م. سعد توفيق محمد

مدرس المادة النظري: م. فراس صلاح يحيى

رئيس القسم: أ.م. نوفل عيسى محيميد

رئيس اللجنة العلمية: أ.د. عادل احمد عبد الله