

## T6. Course Specification (CS)

Institution: Najran University	Date 6-7-1439 H
College/Department : <b>College of Arts and Sciences / Department of mathematic</b>	

### A. Course Identification and General Information

1. Course title : <b>Statics</b> and code: <b>171Math-3</b>			
2. Credit hours : <b>Three hours</b>			
3. Program(s) in which the course is offered. <b>Program of Mathematics</b>			
4. Name of faculty member responsible for the course: <b>Dr. Alsayed Metawea Abd-Elreheem</b>			
5. Level/year at which this course is offered : <b>Third Level / Second Year</b>			
6. Pre-requisites for this course (if any) : <b>None</b>			
7. Co-requisites for this course (if any) : <b>Calculus II / 121Math-3</b>			
8. Location if not on main campus : <b>1-College of Arts and Sciences-Najran (male and female )</b> <b>2- College of Arts and Sciences- Sharurah (male and female)</b>			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage	<input type="text" value="100"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage	<input type="text"/>
Comments :			

## B. Objectives

<p>What is the main purpose for this course ?</p> <ol style="list-style-type: none"> <li><b>define the basic concepts of vectors and its applications</b></li> <li><b>Memorize the main concepts of statics.</b></li> <li><b>Recognize the applications of statics in our life.</b></li> <li><b>Outline the importance of statics for other courses</b></li> <li><b>Recognize the essential role played by friction in our life.</b></li> </ol> <p><b>Evaluate the importance of equilibrium of bodies</b></p>
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)</p> <ul style="list-style-type: none"> <li><b>Review the plan at the Council of the department of each academic year for the purpose of development and improvement.</b></li> <li><b>Encourage students to use the Internet and the site of the professor of the course.</b></li> <li><b>Using e-learning system such as Blackboard, e-examination system, Question Mark,.</b></li> <li><b>Compare present syllabus with its counterparts.</b></li> <li><b>Update learning resources for course regularly using the Internet.</b></li> </ul>

## C. Course Description (Note: General description in the form used in the Bulletin or handbook should be attached)

<p><b>Course Description :This course will :</b></p> <p>Describe the basic concepts of vectors and its applications</p> <p>Introduce the appropriate way to solve the Equilibrium problems by using a suitable method</p> <p>Define the basic concepts of Centre of gravity and its application</p> <p>Explain the different between smooth surface and frictional surface equilibrium problems</p>
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1. Topics to be Covered:		
List of Topics	No. of Weeks	Contact Hours
Vectors	3	9

Forces in Space , Moments and Couples	2	6
Equilibrium ( String & Catena and Smooth Joint Equilibrium)	4	12
Friction	2	6
Virtual work	1	3
Centre of gravity	2	6
Essentials of fluid statics	1	3

1.Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	45					45
Credit	3					3

3-Additional private study/learning hours expected for students per week	4
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.
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On the table below are the five NQF Learning Domains, numbered in the left column.

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table)

**Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes.

**Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and

flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain).

Code	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	define the basic concepts of vectors and its applications	Method of discussion	Exams, homework, and quizzes.
1.2	list the appropriate way to solve the Equilibrium problems by using a suitable method	problem solving methods	Collaborative learning and Team work
1.3	define the basic concepts of Equilibrium	problem solving methods	Exams, homework, and quizzes.
1.4	define the basic concepts of Centre of gravity and its application	Method of discussion	Exams, homework, and quizzes.
1.5	define the basic concepts of fluid statics and its applications	Method of discussion	Exams, homework, and quizzes.
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	explain the different between smooth surface and frictional surface when we study any equilibrium problems	Discussions	Quizzes Practical and written tests and oral - discussions
2.2			
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1	illustrate the opportunity to take responsibility in learning	Discussion	Homework assignments
3.2	demonstrate the student involved in teamwork with peers in an atmosphere of cordiality and understanding with regard to semi-real situations	Cooperative learning method.	Oral presentation
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
	Not applicable	Not applicable	Not applicable
<b>5.0</b>	<b>Psychomotor</b>		
	Not applicable	Not applicable	Not applicable

#### 5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, Quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	First Exam	6	25%

2	Second Exam	12	25%
3	Final Exam	16	50%

#### D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Action of faculty members for advice and guidance of a student's academic.
- Office hours 10hr/ week.
- Follow-up of the academic advisor.

#### E. Learning Resources مصادر التعلم

1. List Required Textbooks :

**1- Prof. Adel Taha Younis, Statics, 2005.**

2. List Essential References Materials (Journals, Reports, etc.)

- Anand, D., K., and Cunniff, P. F., ( Engineering Mechanics Statics ) Boston, 1973
- <http://en.wikipedia.org/wiki/Statics>
- Engineering Mechanics: Statics & Dynamics (13th Edition), by [Russell C. Hibbeler](#), ISBN-13: 978-0132915489

3. List Electronic Materials Web Sites, Facebook, Twitter, etc.

Course videos on YouTube

4-Other learning material such as computer-based programs/CD, professional standards or regulations and software.

None

#### F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.):

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.):

**Classroom with suitable seats**

2. Computing resources (AV, data show, Smart Board, software, etc.):

**One data show**

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) :

None

#### G. Course Evaluation and Improvement Processes:

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <b>Course evaluation by the students at the end of the semester</b>
2. Other Strategies for Evaluation of Teaching by the Instructor or by the department. <ul style="list-style-type: none"> <li>• <b>Presentation of the results of a sample of students on an external reviewer.</b></li> <li>• <b>Qualitative analysis of the results of the students.</b></li> <li>• <b>Course Report</b></li> <li>• <b>Course Portfolio</b></li> </ul>
3 -Processes for Improvement of Teaching: <ul style="list-style-type: none"> <li>• Extend to the Scientific Committee of the section with the following proposals: <ol style="list-style-type: none"> <li>1- Increased teaching hours of decision to at least 4 hours per week</li> <li>2- Work of workshops and lectures to improve curriculum, faculty and Department</li> <li>3- Some seminars and lectures for students of the Department of Mathematics at various levels for their tangible and how to communicate with professors and how they follow the correct methods.</li> </ol> </li> <li>• Training programs and workshops for faculty members on the most important teaching methods based around the learner.</li> <li>• Self-assessment by Professor article.</li> <li>• Creating the right atmosphere for students through social programs, entertainment, and so on.</li> <li>• Upgrading of the relationship between professor and student to be a human relationship.</li> <li>• Follow the new teaching strategies.</li> </ul>
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> <li>• Check and correct sample of student work by independent members.</li> <li>• Exchange periodically samples of tests with a faculty member of the same specialty in other faculties.</li> <li>• A special committee as determined by management college at the end of each semester.</li> <li>• Peer Reviewer</li> <li>• Course portfolio</li> </ul>

5-Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Hosting a visiting professor for evaluating and developing the course with Professor of the course.
- Periodic meetings with outstanding students to see the positive and negative aspects about the course.
- Comparison with similar courses in the corresponding faculties of other universities.
- Assisted by specialists in the design and planning of programs and courses.
- Update the sources of learning of the course to make sure to keep abreast of developments in the field.
- Statistical results to assess the students' course and to benefit from its results in the improvement and development of the course.
- Peer Reviewer
- Course Portofolio



**Name of instructor : Dr. Alsayed Metawea Abd-Elreheem Metawea**

**Signature: alsayed metawea    Date Report Completed: 6-7-1439 H**

**Name of field experience teaching staff : None : Program coordinator : Dr. H. Alhaddad**

**Signature: H . Alhaddad    Date received 15-8-1439 H**