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| *Course report of* |
| Mechatronics (1) - MDP359 – Spring 2021 |
| University: Ain Shams | Faculty: Engineering |

## Basic Information

1. Title and code :

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|  Mechatronics (1) - MDP359 |

1. Program on which the course is given :

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| --- | --- |
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| --- |
| **B.Sc. in Mechanical Engineering (Mechatronics Section)** |

 |

1. Year/Level of program :

|  |
| --- |
| 4 th year  |

1. Units/Credit Hours

|  |  |
| --- | --- |
| ( i ) Lecture : | 45 |

|  |  |
| --- | --- |
| ( ii ) Tutorial/Practical : | 60 |

|  |  |
| --- | --- |
| ( iii ) Total : | 105 |

1. Names of lecturers contributing to delivery of the course :

|  |  |
| --- | --- |
| i - |  Prof. Hesham Aly Sonbol Dr. Ismail Hafez |

|  |  |
| --- | --- |
| ii - | Dr. Mostafa Mahmoud |

|  |  |
| --- | --- |
| iii - |  |

|  |  |
| --- | --- |
| Course coordinator: | Prof. Hesham Aly Sonbol  |

|  |  |
| --- | --- |
| External evaluator: | --- --- --- |

**B- Statistical Information**

No. of students attending the course: No. %

 100

 186

No. of students completing the course: No. %

 100

186

**Results:**

21

 89

 165

Passed: No. % Failed: No. %

11

**Grading of successful students:**

 18

Excellent: No. % Very Good: No. %

24

 45

 34

24

Good: No.

44

Pass : No.

22

 41

## Professional Information

1. **Course Teaching:**

|  |  |  |
| --- | --- | --- |
| Course Content | No. of Hours | Lecturer |
| Introduction on the main design considerations | **3** | Prof. Hesham Sonbol |
| Design of transmission shafts  | **6** | Dr. Mostafa Mahmoud |
| Design of transmission machine parts (clutches, Brakes)  | **6** | Dr. Mostafa Mahmoud |
| Design of belt drives | **3** | Dr. Mostafa Mahmoud |
| Design of rolling bearings | **9** | Dr. Mostafa Mahmoud |
| Design of gears straight, helical, bevel and worm | **6** | Prof. Hesham Sonbol |
| Design of cylinders | **3** | Prof. Hesham Sonbol |
| Design of some mechanical equipment | **6** | Dr. Mostafa Mahmoud |
| Introduction on the main design considerations | **3** | Dr. Mostafa Mahmoud |
| Total | **45** |  |

**Topics taught as a percentage of the content specified:**

**>90 % X 70-90 % <70%**

**Reasons in detail for not teaching any topic**

Everything was taught

**If any topics were taught which are not specified, give reasons in detail**

N/A………………………………………………………………………………………….

1. **Teaching and learning methods:**

 Lectures: **X**

Assignments:  **X**

Technical Reports: **X**

Class Activity: **(Tutorials)**

**Case Study:**

* Lecture- (**Online Schedule lectures through Microsoft Teams**)
* Tutorial – (**Online Schedule Tutorial through Microsoft Teams) and** Schedule Tutorials at campus– and interactive learning and discussion through a group **whatsapp mobile connection and Microsoft Teams**
* Self-learning

Microsoft Teams Links

Lectures

|  |  |  |
| --- | --- | --- |
| Week No. | Link | Subject |
| 125/3/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1616316268559?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 1 – Clutches: plate, cone and centrifugal |
| 21/4/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1617129254278?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 2\_ Helical Springs & Belt Drives |
| 38/4/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1617822698104?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 3\_Bearings Parts 1 & 2 |
| 415/4/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1618436992391?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d |  |
| 522/4/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1618577874141?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 5\_Bearings\_Part 4 |
| 6 | Sham El Neseem Vacation |  |
| 7 | Midterm |  |
| 820/5/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1621329099149?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 8\_ Spur Gear Design |
| 822/5/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1621692293471?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 8\_ Spur Gear Design\_Substitution |
| 927/5/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1621937870649?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 9\_Helical Gear Design |
| 103/6/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1622457461003?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Lecture 10\_Bevel Gear Design |
| 11 |  |  |
| 12 |  |  |

Tutorials

|  |  |  |
| --- | --- | --- |
| Week No. | Link | Subject |
| 11/4/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1617207052438?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%22ae9db12d-e882-4036-92a4-7d86bd12ce1a%22%7d | Tutorial 1 illustration for section 2 & 4 |
| 28/4/2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1617828178812?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%221f54bcf6-ffec-4513-9969-e5b50a2151a6%22%7d | Tutorial 2Illustration for section 1 & 3 |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1617828178812?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%221f54bcf6-ffec-4513-9969-e5b50a2151a6%22%7d | Sheet 2 |
| 927-5-2021 | https://teams.microsoft.com/l/meetup-join/19%3ab7c794ecbad7439a965d5196191ca72d%40thread.tacv2/1622102490427?context=%7b%22Tid%22%3a%22ad2a8324-bef7-46a8-adb4-fe51b6613b24%22%2c%22Oid%22%3a%2215e1d96c-e78d-48e8-a5d6-0b896b385625%22%7d | Concentric Speed reducer |
| 10 |  |  |
| 11 |  |  |

Sample for attendance

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**Student assessment:**

|  |  |
| --- | --- |
| **Method of assessment** | **Percentage of total** |
| Written examination | 60 % |
| Oral examination | 12 % |
| Practical/laboratory work | 0 % |
| Other assignments (Quizzes) / Class work / Midterm | (4/12/12) = 28 % |

**Members of examination committee**

i – Prof. Hesham Aly Sonbol

ii – Dr. Mostafa Mahmoud

**Role of external evaluator**

N/A………………………………………………………………………………………….

1. **Facilities and teaching materials:**

Totally adequate

Adequate to some extent **X**

Inadequate

List any inadequacies

1. **Administrative constraints:**

List any difficulties encountered

 No difficulties

1. **Student evaluation of the course:**





|  |  |
| --- | --- |
| ***Comment*** | ***Response of course Team*** |
|  |  |
|  |  |

1. **Comments from external evaluator(s)**

|  |  |
| --- | --- |
| ***Comment*** | ***Response of course Team*** |
|  |  |
|  |  |

1. **Course enhancement: Progress on actions identified in the previous year’s action plan:**



1. **Action plan**

|  |  |  |
| --- | --- | --- |
| ***Action required*** | ***Completion date*** | ***Person responsible*** |
|  |  |  |
|  |  |  |

**Response of Course Team**

1. **Comments from external evaluator(s): Response of course team**

………**N/A** ………………. …………………………….