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| *Course report of* | |
| |  | | --- | | Automatic Control – MDP 353 – 2016 | | |
| University: Ain Shams | Faculty: Engineering |

## Basic Information

1. Title and code :

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| --- |
| Automatic Control – MDP 353 |

1. Program on which the course is given :

|  |  |
| --- | --- |
| |  | | --- | | Design & Production Engineering | |

1. Year/Level of program :

|  |
| --- |
| Third Year |

1. Units/Credit Hours

|  |  |
| --- | --- |
| ( i ) Lecture : | 2 |

|  |  |
| --- | --- |
| ( ii ) Tutorial/Practical : | 2 |

|  |  |
| --- | --- |
| ( iii ) Total : | 4 |

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

|  |  |
| --- | --- |
| i - | Prof/ Farid A. Tolbah |

|  |  |
| --- | --- |
| ii - | Dr Mohamed Ahmed Aly |

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

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| Course coordinator: | Prof./ Farid A. Tolbah |

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

## Statistical Information

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| --- | --- |
| No. of students attending the course: | 79 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Excellent | V. Good | Good | Pass | Weak | V. Weak | SUM |
| Students No. | 3 | 17 | 28 | 26 | 3 | 2 | 79 |
| Percentage (%) | 3.8 | 21.5 | 35.5 | 32.9 | 3.8 | 2.6 |  |

## Professional Information

1. **Course Teaching**

|  |  |  |  |
| --- | --- | --- | --- |
| Topic | No. of Hours | Lecture | Tutorial/Practical |
| 1- Introduction and objectives, Control systems types , configurations and examples (LC ,DE and servo systems). | 4 | 2 | 1/1 |
| 2- Control system components (1): sensors and signal input components: push buttons – limit, proximity and optical switches – shaft encoders). | 4 | 2 | 1/1 |
| 3- control system components (2): the logic components: ( logic gates, FF's, timers, counters )and their interpretation electronically , electrically and pneumatically. | 8 | 4 | 2/2 |
| 4- the hydraulic and pneumatic control system components and their standard symbols. | 4 | 2 | 0/2 |
| 5- Design of the Combinational logic control systems. | 8 | 4 | 2/2 |
| 6 - Design of the sequential logic and the discrete event (DE) control systems using: step and displacement diagrams, State –diagrams, Ladder diagram, SFC, Grafcet, Petri nets, sequencers with examples. | 8 | 4 | 2/2 |
| 7- The PLC configuration, H/W , S/W with examples to show how to use it. | 4 | 2 | 0/2 |
| 8- Programming using LAD , SFC, STL/IL , FBD. | 4 | 2 | 0/2 |
| 9- Applications on the production lines, CNC, FMS and CIM. | 2 | 2 |  |
| 10- Position and speed servo systems and their structure. | 2 | 2 |  |
| Total no. of hours for the course | 48 | 24 | 9/15 |

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

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

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

All topics were taught ……………………………………….

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

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

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**Teaching and learning methods:**

Lectures: **X**

Practical training/ laboratory:  **X**

Seminar/Workshop:

Class Activity: **(Tutorials)**  **X**

**Case Study: X**

Other assignments/homework:

If teaching and learning methods were used other than those specified, list and give reasons:

………………………………………………………………………………………………

………………………………………………………………………………………………

1. **Student assessment:**

|  |  |
| --- | --- |
| **Method of assessment** | **Percentage of total** |
| Assignments | 10 |
| Practical Laboratory | 10 |
| Mid Term Exam | 10 |
| Written Final Exam | 70 |

**Members of examination committee**

i – Prof. Farid A. Tolbah ii- Dr Mohamed Ahmed Ali

**Role of external evaluator**

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1. **Facilities and teaching materials:**

Totally adequate

**X**

Adequate to some extent

Inadequate

List any inadequacies

1. **Administrative constraints:**

List any difficulties encountered

No difficulties

**5-** **Student evaluation of the course:**

**Response of Course Team**

List any criticisms

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**6- Comments from external evaluator(s): Response of course team**

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