***Course Report of***

# CSE 631 System Identification

**A- Basic Information**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course title:** | System identification | | | | |
| **Course code:** | CSE 631 | | | | |
| **Program including the course:** | | | M.Sc. in Computers and Systems Engineering  Ph.D. in Computers and Systems Engineering | | |
| **Department offering the program:** | | | Computers and Systems Engineering | | |
| **Department offering the course:** | | | Computers and Systems Engineering | | |
| **Lecture:** 3 | |  | | |  |
| **Lecturer:** | | Dr. Ahmed Alenany | |  | |

**B- Statistical Information**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No. of students attending the course: No.** | | | | | | | 3 | |  | | |
| **Results:** | | | | | | | | | | | |
|  | **No.** | **%** |  | |  | | | | | | |
| **Passed:** | 3 | 100 |  | |  | | | | | | |
| **Failed:** | 0 | 0 |  | |  | | | | | | |
|  | | | | |  | | | | | | |
| **Grading of successful students:** | | | | | | | | | | | |
| **Grade** | **A** | **A-** | **B+** | **B** | **B-** | **C+** | **C** | **C-** | **D+** | **D** | **F** |
| **No.** | 1 |  | 1 |  |  |  | 1 |  |  |  |  |
| **%** | 33.3 |  | 33.3 |  |  |  | 33.3 |  |  |  |  |

**C- Professional Information**

1. **Course Teaching**

|  |
| --- |
| **Topic actually taught** |
| Introduction to system identification |
| Review of statistical concepts: mean, bias, variance, covariance, and correlation |
| Identification of impulse response parameters from general input-output data |
| Identification of impulse response parameters using correlation analysis |
| Identification of transfer function using sine wave testing |
| The least squares method: derivation, geometric meaning |
| The least squares method: quality of the estimate |
| Model structures used in identification. |
| Recursive least squares: derivation and simulation |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Topics taught as a percentage of the content specified:** | | | | | |
| **> 90%:** |  | **70-90%:** | **100** | **< 70 %:** |  |
| **Reasons in detail for not teaching any topic:** | | | | | |
| **If any topics were taught which are not specified, give reasons in detail**  None | | | | | |

**2- Teaching and Learning Methods**

|  |  |
| --- | --- |
| **Lectures:** | Yes |
| **Tutorial:** | No |
| **Lab.** | No |
| **Seminar/ Workshop:** | No |
| **Case study:** | No |
| **Other assignments/homework:** | Yes |
| **Others:** | No |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3- Student Assessment**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Category | Description | No. | Schedule (Week No.) | Mark | | Semester work | Assignment | 3 | 3, 6, 9 | 30 | | Written exams | Final Exam | 1 | 16 | 70 | |  | | | **Total** | **100** | |

**Members of examination committee** Dr. Ahmed Alenany

**Role of external evaluator** None

**4- Facilities and Teaching Materials**

|  |  |
| --- | --- |
| **Totally adequate** | Yes |
| **Adequate to some extent** |  |
| **Inadequate** |  |
| **List any inadequacies:** | None | |

**5- Difficulties Faced during the Course**

**6- Student Evaluation of the Course (List any Criticisms)**

|  |  |
| --- | --- |
| **Criticisms:** | **Response of course team** |
|  |  |
|  |  |

**7- Comments from External Evaluator(s):     Response of course team**

None

**8- Proposals for Course Enhancement:**

|  |
| --- |
| **Progress on actions identified in the previous year’s action plan:** |
| **Action State whether or not completed and give reasons for any non-completion** None |

**9- Action Plan for the Next Academic Year**

- Same as the present year.

**Actions required  Completion date  Person responsible**

|  |
| --- |
| **Course Coordinator:** Dr. Ahmed Alenany  Signature:  Date: |