*Course Report of*

**Structure and Properties of Materials MDP 151- Spring 2020**

**University: Ain Shams Faculty: Engineering**

**A- Basic Information**

**1. Title and code: Structure and Properties of Materials MDP 151**

**2. Programme(s) on which this course is given:** General Mechanical

**3. Year/ Level of programmes:** Sophomore Students (2nd Year-Level 3)

**4. Units/Credit hours: 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Lecture:****Tutorial:** | 21 | **Practical:** | 1 |
| **Total (hrs):** | 4 |

**5. Names of lecturers contributing to the delivery of the course**

Course coordinator: Ahmed Elsabbagh

External evaluator: N/A

**B- Statistical Information**

No. of students attending the course: 73 100 %

No. of students completing the course: 69 95 %

**Results:**

Passed: **69 (100%)** Failed: **0 (0 %)**

**Grading of successful students:**

|  |  |
| --- | --- |
| 16 Research report students (66 students)3 written exam students |  |

**C- Professional Information**

**1 – Course teaching**

|  |  |  |
| --- | --- | --- |
| **Topics actually taught** | **No. of hours** | **Lecturer** |
| Classification of materials.  | **4** | Ahmed Elsabbagh & others |
| Atomic bonding. | **4** | Ahmed Elsabbagh & others |
| Crystallinity of materials. | **4** | Ahmed Elsabbagh & others |
| Crystallinity of materials. | **4** | Ahmed Elsabbagh & others |
| Solidification of metals. | **4** | Ahmed Elsabbagh & others |
| Solidification of metals | **4** | Ahmed Elsabbagh & others |
| Phase diagram | **4** | Ahmed Elsabbagh & others |
| Mid Term\* | **4** | Ahmed Elsabbagh & others |
| Phase diagram | **4** | Ahmed Elsabbagh & others |
| Iron carbon diagram | **4** | Ahmed Elsabbagh & others |
| Iron carbon diagram | **4** | Ahmed Elsabbagh & others |
| Polymers | **4** | Ahmed Elsabbagh & others |
| Polymers | **4** | Ahmed Elsabbagh & others |
| Ceramics  | **4** | Ahmed Elsabbagh & others |
| Mechanical Testing  | **4** | Ahmed Elsabbagh & others |

\*Due to Covid 19, midterm is cancelled at its planned time and grouped with final written exam or research proposal

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **>90 %** |  |  | **70-90 %** |  |  | **<70%** |  |

**Reasons in detail for not teaching any topic**: **N/A**

**If any topics were taught which are not specified, give reasons in detail: N/A**

**2- Teaching and learning methods:**

|  |  |
| --- | --- |
| Lectures | **🟓** |
| Practical training/ laboratory | **🟓** |
| Seminar/workshop |  |
| Class Activity | **🟓** |
| Case Study |  |
| Other assignments/homework | **🟓** |

* Due to Covid-19 Lockdown, Midterm is not applicable
* \*Practical part is given partially in the first 5 weeks of the course before Covid-19. Then the lab part is visualized in youtube. Interactive part and skills are partially transformed to make online experiments from open-source labs and compare with benchmark results
* An example for changing:

|  |  |  |
| --- | --- | --- |
| c1 | Sketch the microstructure of different alloys | Youtube and tutorials are given and interaction from students was reviewed |
| c2 | Relate the mechanical and physical properties of solid materials with the microstructure  | Benchmark results (microstructure versus mechanical) are elaborated |
| c3 | Measure the grain size of solid materials.  | Elaborative solved problems (step by step in utube) |
| c4 | Implement a tensile and hardness tests on solid materials. | cancelled |

* C1-C2-C3 are done with other means
* C4 is cancelled for the time being (such notes are given)

**3- Student assessment:**

|  |  |  |
| --- | --- | --- |
| **Method of assessment** | **Percentage of total** | **Research project\*** |
| Written examination\* | 40% | Just research projects which covers most of ILOs (see example below) |
| Oral examination | 5% |
| Written Midterm examinations\* | 25% |
| Practical/laboratory work | 10% |
| Other quizzes, assignments/class work | 20% |
| Total | 100% |  |

Assessment method is changed due to Covid-19 (written exams are replaced by research project for most of the students but with similar ILOs, which are applicable to be measured.

\*Students applied for written exams are keeping their previous term work results

**Members of examination committee**

Ramadan Elgamsy

**Role of external evaluator:** N/A

**4- Facilities and teaching materials:**

|  |  |
| --- | --- |
| Totally adequate |  |
| Adequate to some extent | 🟓 |
| Inadequate |  |

\*Missing labs after Corona are made by Utube and the experiments are shown. Results are given as benchmark

Some skills are done in online transmission to follow students step by step

List any inadequacies

**N/A**

**5- Administrative constraints:**

List any difficulties encountered: N/A

**6- Student evaluation of the course: Response of course team**

NA

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

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

**8- Course enhancement**

Progress on actions identified in the previous year’s action plan

|  |  |
| --- | --- |
| **Action** | **State whether or not completed and give reasons for non-completion** |
| **NA** | **N/A** |

**9- Action plan for academic year 2020– 2021**

|  |  |  |
| --- | --- | --- |
| **Actions required** | **Completion date** | **Person responsible** |
| **More digiltalization of the content without harming the practical part** | **NA** | **N/A** |

**Course coordinator:** Prof. Dr. Ahmed Elsabbagh;

**Cell phone:** 01005280270;

**E-mail:** **elsabbagh.ahmed@eng.asu.edu.eg**

**Signature:** **Ahmed Elsabbagh, Date: Feb 3, 2019**