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| UNIVERSITY OF TECHNOLOGY AND EDUCATIONHCMCITY**FACULTY OF VEHICLE AND ENERGY ENGNEERING**  | **Program:** ThermalEngineering Technology**Level: Bachelor** |

**COURSE SYLLABUS**

1. **Course name:**Drying Practice **Course code:** DRYP322932
2. **Credits:** (0/2/4) (3 theory credits, 2 credit practice / laboratory)

Time allocation: 15 weeks (2 credit practice / laboratory, 4 self-study period / week)

1. **Lecturers:**

1/ Main lecturer: Nguyen Le Hong Son

2/ Teaching Lecturers: LaiHoaiNam , Doan Minh Hung

1. **Required course**

Required courses: no

Pre-courses: Thermodynamics and Heat transfer

1. **Course Description**

Providing students with the basic knowledge, principles and operation of a number of common drying system, measuring the basic parameters of the material and drying agents.

1. **Course Goals:**

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| ***Goals*** |  ***Goal description****(The course aims to provide students with:)* | **Expected Learning Outcome of Program** |
| **G1** | Having knowledge and technical arguments. | ELO 2,3 |
| **G2** | Developing knowledge and technical arguments, discovery knowledge, systems thinking, solve problems replaced in thermal technology engineering. | ELO4,6 |
| **G3** | Having the skills to work. | ELO 7,8,9 |
| **G4** | Establishing ideas, designing, conducting and operating thermal and cooling system suitable for social needs. | ELO 13,14 |

1. **Expected learning outcomes**

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| **Course objectives** | **Description***(After completing program, students are able* | **ELOof Program** |
| **G1** | **G1.1** | Apply specialized knowledge in designing, calculating, testing and diagnosing drying systems. | ELO 2,3 |
| **G2** | **G2.1** | Experiment and discover drying system knowledgeUnderstand and explain the causes of failures and overcoming the problem of thermal systems | ELO 4,6 |
|
|  | **G2.2** | Having proper behavior during practice | ELO 7 |
| **G3** | **G3.1** | Have professional skills in thermal engineering technology | ELO 8 |
| **G3.2** | Presenting final report | ELO 9 |
| **G4** | **G4.1** | Calculating and testing the drying system | ELO 13,14 |

1. **Texbooks**

**-** Texbooks

 1. Dinh Thanh Ngan, Drying Techniques syllabus ..

2. Tran Van Phu,Calculation and drying system design, Education Publishing House, Ha Noi

 3. Hoang Van Chuoc, Drying technique, Publisher of Science & Engineering, Hanoi - 1997

 **9.Assessment:**

- Grading Scale: **10**

- Assesement plans:

|  |  |  |  |  |  |
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| **Assesement method** | **Content** | **Week** | **Assessment tool** | **ELO** | **Percent (%)** |
| **Mid Term** |  | **50** |
| Taking roll call | Taking roll callon the name list | All term | Name list |  | 20 |
| Parameter | Operating and measurement parameters | All term | Parameter records | 2,3 | 30 |
| **Final Term** |  | **50** |
| Operate | - Operator Proficiency Dryer- Ability to calculate design tower dryer, Final Report | Final Term | Report - operating | 2,4 |  |

1. **Nội dung chi tiết học phần:**

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| **Week** | **Content** | **ELOs** |
| 1 | ***Chapter 1:* Operating tower dryer (0,15,30)*****Chapter 2:*Operating fluidized bed dryer (0,15,30)** |  |
| ***A/* Contentsandteaching methods in class***: (30)***Theory teaching contents:**+ Principle of Operation+ Operator+ Measured parameters+ Check:Operated dryerExplain the principles DryerExplain the equipment in the dryerExplain the measured parameters**Teaching methods**:+ Presentations+ Model+ Group Activity | 3,4,6 |
| ***B/*Contents for seft-study at home**: *(60)*Review the design calculationsHomework | 3,4 |
| 2 | ***Chapter 3:*Operating heat pump dryer (0,15,30)*****Chapter 5:*Operating drum dryer (0,15,30)** |  |
| ***A/* Contentsandteaching methods in class***: (20)***Theory teaching contents:**+ Principle of Operation+ Operator+ Measured parameters+ Check:Operated dryerExplain the principles DryerExplain the equipment in the dryerExplain the measured parameters**Teaching methods**:+ Presentations+ Model+ Group Activity | 4,6,7,13,14 |
| ***B/*Contents for seft-study at home**: *(40)*Homework | 3,4 |
| 3 | ***Chapter 4:*: Freeze drying machine operator (0,30,60)** |  |
| ***A/* Contentsandteaching methods in class***: (20)***Theory teaching contents:**+ Principle of Operation+ Operator+ Measured parameters+ Check:Operated dryerExplain the principles DryerExplain the equipment in the dryerExplain the measured parameters**Teaching methods**:+ Presentations+ Model+ Group Activity | 4,6,7,8, 13,14 |
| ***B/*Contents for seft-study at home**: *(60)*Review the design calculationsHomework | 4,9 |

1. **Classroom rules of conduct:**

Students must do problems, home works, and projects by themselves. Student will be received zero score if he (or she) violates study regulations or ethics.

1. **Approved date:**
2. **Approvers:**

|  |  |  |
| --- | --- | --- |
| **Dean** | **Head of department** | **Authors** |
|  |  |  |

1. **Syllabus update:**

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| **Time #1: Upgraded issues:**  **date/month/year** | **<**updating authors>Head of Department |