**Global Learning Initiatives Program Course Syllabus**

Please complete the following form in English. The information will be updated to the Global Learning Initiatives Program website for students’ reference. If you will be offering more than one course, please fill out one form per course offered. Examples in grey.

**Course Information**

|  |  |
| --- | --- |
| Course Name  \*provide the **English** course name of the course. | VLSI Manufacture Technology |
| Lecturer(s)  \*provide the lecturers’ **English** name. If there are more than one lecturer, please indicate all lecturers in the column. | Chin-Han Chung |
| Course Description  \*briefly describe the contents covered in the courses. | This course provides a fundamental insight into the manufacturing technology of semiconductor devices and integrated circuits. |
| Course Objectives  \*list out knowledge or skills students should acquire upon completion of course. | Understand the fundamental scope of the manufacturing process of semiconductor chips. |
| Suggested Proficiencies  (if any)  \*list preferred knowledge or skills students should have before taking the course. | Fundamental physics and chemistry |
| Reading List  (if any)  \*list out the textbooks, references, or other reading materials. | Introduction to Semiconductor Manufacturing Technology (2nd Edition) (Xiao, Hong, SPIE, 2012) |
| Grading Criteria  \*how would the students be assessed during the course. | Midterm exam (30%)  Final report (30%)  Final exam (40%) |

**Course Schedule**

Please complete the following table with the dates and expected course topics. If there are more than one lecturers instructing the course, please also indicate the lecturer for each class.

|  |  |  |  |
| --- | --- | --- | --- |
| Class | Date (YYYY/MM/DD) | Course Topic | Lecturer |
| 1 | 2023/02/15 | Lecture Introduction | Chin-Han Chung |
| 2 | 2023/02/22 | Semiconductor Basics | Chin-Han Chung |
| 3 | 2023/03/01 | Semiconductor Basics | Chin-Han Chung |
| 4 | 2023/03/08 | Wafer Manufacturing, Epitaxy, and Substrate Engineering | Chin-Han Chung |
| 5 | 2023/03/15 | Thermal Process | Chin-Han Chung |
| 6 | 2023/03/22 | Photolithography | Chin-Han Chung |
| 7 | 2023/03/29 | Plasma Basics | Chin-Han Chung |
| 8 | 2023/04/05 | Midterm | Chin-Han Chung |
| 9 | 2023/04/15 | Ion Implantation and Etch | Chin-Han Chung |
| 10 | 2023/04/19 | Chemical Vapor Deposition and Dielectric Thin Films | Chin-Han Chung |
| 11 | 2023/04/26 | Metallization | Chin-Han Chung |
| 12 | 2023/05/03 | Chemical Mechanical Polishing | Chin-Han Chung |
| 13 | 2023/05/10 | Radiation Effects in Memories | Chin-Han Chung |
| 14 | 2023/05/17 | Process Integration | Chin-Han Chung |
| 15 | 2023/05/24 | Integrated Circuit Processing Technologies | Chin-Han Chung |
| 16 | 2023/05/31 | Final Exam | Chin-Han Chung |
| 17 | 2023/06/07 | Final report | Chin-Han Chung |
| 18 | 2023/06/14 | Final report | Chin-Han Chung |