**COURSE SYLLABUS**

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| **Course Title**：Optical Thin Film Engineering | | | | |
| **Credits / Hours** | 3/3 | **Course Number** |  | **□Required ■Elective** |
| **Course Description**  Focus the optical thin film on the antireflection coating, high reflection laser mirror, and edge filter application. Teaching the structures, design rules, and optical principles of these three optical thin films. After designed and selected materials, the optical thin films are deposited through the E-gun evaporator with the thickness monitor system. These three optical thin films are analyzed through the transmittance and reflection measurement and an ellipsometer. The comparison of the designed structure and final coated optical thin films can be analyzed and discussed in the course.  \*Text Book: 1. “Thin-Film Optical Filters”, 3rd ed. by H. A. Macleod (IoP)  2. “Handbook of Thin Film Technology” by E. I. Maissel and R. Glang (McGraw-Hill),1970.  \*Prerequisites: General physics, Materials science | | | | |
| **Course Topics** | | | | |
| **Topic** | | **Content** | | |
| Design of optical thin film filters. | | Design of antireflection coating, high reflection, laser mirror, and edge filter. | | |
| Coating of optical thin film filters. | | Coating of antireflection coating, high reflection, laser mirror, and edge filter. | | |
| Testing of optical thin film filters. | | Coating and testing of antireflection coating, high reflection, laser mirror, and edge filter. | | |