**Doctor of Philosophy Program in Materials Science and Nanotechnology**

**Name of Degree:** Doctor of Philosophy (Materials Science and Nanotechnology)

**Abbreviation:** Ph.D. (Materials Science and Nanotechnology)

**Curriculum**

**Total Credits**

Type 1.1 48 Credits

Type 1.2 72 Credits

Type 2.1 48 Credits

Type 2.2 72 Credits

**Curriculum Structure**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course** | **Number of Credit** | | | |
| **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| Required Courses (\*) | 3 (Non Credit) | 3 (Non Credit) | 15 | 15 |
| Elective Courses (\*\*) | - | - | - | 12 |
| Dissertation | 48 | 72 | 36 | 48 |
| **Total** | 48 | 72 | 48 | 72 |

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| --- | --- | --- | --- | --- | --- |
| **First Year, 1st Semester** | | **Number of Credit** | | | |
| **Course number** | **Course number** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 801\* | Thermodynamics and Kinetics of Materials | **-** | **-** | **3 (3-0-6)** | **3(3-0-6)** |
| 301 802\* | Nanoscience and Nanotechnology | **-** | **-** | **3 (3-0-6)** | **3 (3-0-6)** |
| 301 803\* | Structures and Properties of Nanomaterials | **-** | **-** | **3 (3-0-6)** | **3 (3-0-6)** |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **9** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **-** |
| 301 999 | Dissertation | **-** | **-** | **-** | **-** |
| **Total credits** | | **9** | **9** | **9** | **9** |
| **Cumulative credits** | | **9** | **9** | **9** | **9** |

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| **First Year, 2nd Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 804\* | Characterization of Materials | **-** | **-** | **3 (3-0-6)** | **3 (3-0-6)** |
| 301 708\*\* | Computational Materials Science | **-** | **-** | **-** | **3** |
| 301 733\*\* | Molecular Simulations and Applications | **-** | **-** | **-** | **3** |
| 301 762\*\* | Nanophysics | **-** | **-** | **-** | **3** |
| 301 763\*\* | Design and Analysis of Experiments for Materials Science | **-** | **-** | **-** | **3** |
| 301 771\*\* | Sintering of Ceramics | **-** | **-** | **-** | **3** |
| 301 991\* | Seminar in Current Materials Science and Nanotechnology I | 1 (Non Credit) | 1 (Non Credit) | 1 (Non Credit) | 1 (Non Credit) |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **9** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **-** |
| 301 999 | Dissertation | **-** | **-** | **6** | **-** |
| **Total credits** | | **9** | **9** | **9** | **9** |
| **Cumulative credits** | | **18** | **18** | **18** | **18** |

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| --- | --- | --- | --- | --- | --- |
| **Second Year, 1st Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 709\*\* | Electrospinning and Nanofibrous Materials | **-** | **-** | **-** | **3** |
| 301 730\*\* | Selected topics in Materials Science and nanotechnology | **-** | **-** | **-** | **3** |
| 301 732\*\* | Thermoelectric Materials | **-** | **-** | **-** | **3** |
| 301 772\*\* | Piezoelectric Ceramics | **-** | **-** | **-** | **3** |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **9** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **3** |
| 301 999 | Dissertation | **-** | **-** | **9** | **-** |
| **Total credits** | | **9** | **9** | **9** | **9** |
| **Cumulative credits** | | **27** | **27** | **27** | **27** |

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| **Second Year, 2nd Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 992\* | Seminar in Current Materials Science and Nanotechnology II | **-** | **9** | **-** | **-** |
| 301 996 | Dissertation | **9** | **-** | **-** | **-** |
| 301 997 | Dissertation | **-** | **-** | **-** | **9** |
| 301 998 | Dissertation | **-** | **-** | **9** | **-** |
| 301 999 | Dissertation | **-** | **9** | **-** | **-** |
| **Total credits** | | **9** | **9** | **9** | **9** |
| **Cumulative credits** | | **36** | **36** | **36** | **36** |

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| **Third Year, 1st Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **9** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **9** |
| 301 999 | Dissertation | **-** | **-** | **9** | **-** |
| **Total credits** | | **9** | **9** | **9** | **9** |
| **Cumulative credits** | | **45** | **45** | **45** | **45** |

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| --- | --- | --- | --- | --- | --- |
| **Third Year, 2nd Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 993\* | Seminar in Current Materials Science and NanotechnologyIII | 1 (Non Credit) | 1 (Non Credit) | 1 (Non Credit) | 1 (Non Credit) |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **3** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **9** |
| 301 999 | Dissertation | **-** | **-** | **3** | **-** |
| **Total credits** | | **3** | **9** | **3** | **9** |
| **Cumulative credits** | | **48** | **54** | **48** | **54** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fourth Year, 1st Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **-** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **9** |
| 301 999 | Dissertation | **-** | **-** | **-** | **-** |
| **Total credits** | | **-** | **9** | **-** | **9** |
| **Cumulative credits** | | **48** | **63** | **48** | **63** |

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| --- | --- | --- | --- | --- | --- |
| **Fourth Year, 2nd Semester** | | **Number of Credit** | | | |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 301 996 | Dissertation | **-** | **9** | **-** | **-** |
| 301 997 | Dissertation | **-** | **-** | **-** | **-** |
| 301 998 | Dissertation | **-** | **-** | **-** | **9** |
| 301 999 | Dissertation | **-** | **-** | **-** | **-** |
| **Total credits** | | **-** | **9** | **-** | **9** |
| **Cumulative credits** | | **48** | **72** | **48** | **72** |

**Program Lecturers**

1. Assoc. Prof. Dr. Sutham Srilomsak
2. Asst. Prof. Dr. Sriprajak Krongsuk
3. Asst. Prof. Dr. Pairot Moontrakool
4. Asst. Prof. Dr. Pornjak Srepusharawoot
5. Asst. Prof. Dr. Prasit Thongbai
6. Asst. Prof. Dr. Apichoke Tangtrakarn
7. Asst. Prof. Dr. Supree Pinitsoontorn
8. Asst. Prof. Dr. Nonglak Meethong
9. Asst. Prof. Dr. Pawinee Klangtakai
10. Asst. Prof. Dr. Viyada Harnchana
11. Dr. Wirat Jarernboon
12. Dr. Theerapong Puangmali
13. Dr. Rattakarn Yensano
14. Dr. Sujitra Daengsakul