**Doctor of Philosophy Program in Chemistry (2015)**

**Name of Degree:** Doctor of Philosophy (Chemistry)

**Abbreviation:** Ph.D. (Chemistry)

**Admission Requirements**

Type 1.1:

Hold a master's degree in chemistry

Type 2.1:

Hold a master's degree in chemistry-related fields

Type 2.2:

Hold a bachelor's degree in chemistry with a GPA of at least 3.50

**Curriculum**

**Total Credits**

Type 1.1 48 Credits

Type 2.1 48 Credits

Type 2.2 72 Credits

**Curriculum Structure**

|  |  |  |  |
| --- | --- | --- | --- |
| **Courses** | **Number of Credit** | | |
| **Type 1.1** | **Type 2.1** | **Type 2.2** |
| Required Courses (\*) | 3 (Non Credit) | 6 | 12 |
| Elective Courses (\*\*) | - | 6 | 12 |
| Dissertation | 48 | 36 | 48 |
| **Total** | 48 | 48 | 72 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **First Year, 1st Semester** | | **Number of Credit** | | | | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** | | | |
| Analytical | Inorganic | Physical | Polymer |
| 312 711\* | Advanced Organic Chemistry | - | select 1, 3 credits | select 2, 6 credits | | | |
| 312 721\* | Advanced Inorganic Chemistry | - |
| 312 731\* | Advanced Physical Chemistry | - |
| 312 741\* | Instrumental Methods of Analysis | - |
| 312 751\* | Structures and Properties of Polymer | - |
| 312 823\*\* | Special Topics in Advanced Inorganic Chemistry | - | select 2, 4 credits | - | 2 | - | - |
| 312 826\*\* | Chemistry of Ceramics | - | - | 2 | - | - |
| 312 832\*\* | Group Theory and Molecular Structure | - | - | - | 2 | - |
| 312 836\*\* | Computational Chemistry | - | - | - | 2 | - |
| 312 842\*\* | Modern Techniques in Atomic Spectroscopy | - | 2 | - | - | - |
| 312 843\*\* | Advanced Chromatography | - | 2 | - | - | - |
| 312 851\*\* | Polymer Blends | - | - | - | - | 2 |
| 312 852\*\* | Polymer Composites and Nanocomposites | - | - | - | - | 2 |
| 312 99x | Dissertation | 9 | - | - | - | - | - |
| **Total credits** | | 9 | 7 | 10 | 10 | 10 | 10 |
| **Cumulative credits** | | 9 | 7 | 10 | 10 | 10 | 10 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **First Year, 2nd Semester** | | **Number of Credit** | | | | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** | | | |
| Analytical | Inorganic | Physical | Polymer |
| 312 711\* | Advanced Organic Chemistry | - | - | select 1, 3 credits | | | |
| 312 721\* | Advanced Inorganic Chemistry | - | - |
| 312 731\* | Advanced Physical Chemistry | - | - |
| 312 741\* | Instrumental Methods of Analysis | - | - |
| 312 751\* | Structures and Properties of Polymer | - | - |
| 312 822\*\* | Physical Methods in Inorganic Chemistry | - | select 1, 2 credits | - | select 4, 8 credits | - | - |
| 312 824\*\* | Bioinorganic Chemistry | - | - | - | - |
| 312 825\*\* | Organometallic Chemistry | - | - | - | - |
| 312 827\*\* | X-ray Crystallography | - | - | - | - |
| 312 828\*\* | Hybrid Materials and Nanocomposites | - | - | - | - |
| 312 831\*\* | Physico-Chemical Techniques | - | - | - | select 4, 8 credits | - |
| 312 833\*\* | Statistical Thermodynamics and Photochemistry | - | - | - | - |
| 312 835\*\* | Surface Chemistry and Catalysis | - | - | - | - |
| 312 838\*\* | Topics of Current Interest in Physical Chemistry | - | - | - | - |
| 312 839\*\* | Special Topics in Advanced Physical Chemistry | - | - | - | - |
| 312 844\*\* | Advanced Flow-based Analysis | - | select 4, 8 credits | - | - | - |
| 312 845\*\* | Pollutants in Environmental Chemistry | - | - | - | - |
| 312 846\*\* | Thermal Analysis and Applications | - | - | - | - |
| 312 847\*\* | Advanced Electroanalytical Techniques | - | - | - | - |
| 312 849\*\* | Current Topics of Interest in Analytical Chemistry | - | - | - | - |
| 312 853\*\* | Polymer Colloids | - | - | - | - | select 4, 8 credits |
| 312 854\*\* | Stability and Degradation of Polymers | - | - | - | - |
| 312 855\*\* | Rheology of Polymer | - | - | - | - |
| 312 856\*\* | Biopolymers | - | - | - | - |
| 312 857\*\* | Advanced Polymer Synthesis | - | - | - | - |
| 312 891\* | Seminar I | 1 (Non Credit) | 1 | 1 | 1 | 1 | 1 |
| 312 99x | Dissertation | 9 | 8 | 0 | 0 | 0 | 0 |
| **Total credits** | | 9 | 11 | 12 | 12 | 12 | 12 |
| **Cumulative credits** | | 18 | 18 | 22 | 22 | 22 | 22 |

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| --- | --- | --- | --- | --- |
| **Second Year, 1st Semester** | | **Number of Credit** | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** |
| 312 892\* | Seminar II | 1 (Non Credit) | 1 | 1 |
| 312 99x | Dissertation | 9 | 8 | 8 |
| **Total credits** | | **9** | **9** | **9** |
| **Cumulative credits** | | **27** | **27** | **31** |

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| --- | --- | --- | --- | --- |
| **Second Year, 2nd Semester** | | **Number of Credit** | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** |
| 312 893\* | Seminar III | 1 (Non Credit) | 1 | 1 |
| 312 99x | Dissertation | 9 | 8 | 8 |
| **Total credits** | | **9** | **9** | **9** |
| **Cumulative credits** | | **36** | **36** | **40** |

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| --- | --- | --- | --- | --- |
| **Third Year, 1st Semester** | | **Number of Credit** | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** |
| 312 99x | Dissertation | 9 | 9 | 9 |
| **Total credits** | | **9** | **9** | **9** |
| **Cumulative credits** | | **45** | **45** | **49** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Third Year, 2nd Semester** | | **Number of Credit** | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** |
| 312 99x | Dissertation | 3 | 3 | 9 |
| **Total credits** | | **3** | **3** | **9** |
| **Cumulative credits** | | **48** | **48** | **58** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fourth Year, 1st Semester** | | **Number of Credit** | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** |
| 312 99x | Dissertation | - | - | 9 |
| **Total credits** | | **-** | **-** | **9** |
| **Cumulative credits** | | **-** | **-** | **67** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fourth Year, 2nd Semester** | | **Number of Credit** | | |
| **Course Number** | **Course Title** | **Type 1.1** | **Type 2.1** | **Type 2.2** |
| 312 99x | Dissertation | - | - | 5 |
| **Total credits** | | **-** | **-** | **5** |
| **Cumulative credits** | | **-** | **-** | **72** |

**Program Committee**

1. Assoc. Prof. Dr. Supalux Srijaranai

2. Prof. Dr. Sujittra Youngme

3. Asst. Prof. Dr. Khatcharin Siriwong

4. Asst. Prof. Dr. Choosak Poonsawat

5. Asst. Prof. Dr. Rodjana Burakham