**Doctor of Philosophy Program in Biology**

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

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

**Admission Requirements**

**Type 1.1**

Holding a master's degree in biology or related fields with a GPA of at least 3.50 or having work experience at least 2 years in the field of biology

**Type 1.2:**

Holding a bachelor's degree in biology or related fields with a GPA of at least 3.50

**Type 2.1:**

Holding a master's degree in biology or related fields with a GPA of at least 3.50 or having work experience at least 2 years in the field of biology

**Type 2.2:**

Holding a bachelor's degree in biology or related fields with a GPA of at least 3.50 or holding a bachelor's degree in biology or related fields with a GPA of at least 3.25 and having a research paper published in international journal.

**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 title** | **Number of Credit** |
| **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| Required Courses (\*) | 2 (Non Credit) | 2 (Non Credit) | 6 | 6 |
| Elective Courses (\*\*) | - | - | 6 | 18 |
| Dissertation | 48 | 72 | 36 | 48 |
| **Total credits** | 48 | 72 | 48 | 72 |

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| --- | --- |
| **First Year, 1st Semester** | **Number of Credit** |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 311 990\* | Dissertation Seminar I | 1(Non Credit) | 1(Non Credit) | 1 | 1 |
| 311 993\* | Current Topics in Biology | - | - | 2 | 2 |
| 311 706\*\* | Systematic Classification of Organisms |  |  |  |  |
| 311 711\*\* | Plant Metabolism |  |  |  |  |
| 311 719\*\* | Taxonomy of Grasses and Sedges | - | - | 3 | 3 |
| 311 720\*\* | Modern Methods in Plant Taxonomy | - | - | 3 | 3 |
| 311 724\*\* | Plant Protoplast Cultures | - | - | 3 | 3 |
| 311 725\*\* | Gene Transfer Technology in Higher Plants | - | - | 3 | 3 |
| 311 730\*\* | Bryology | - | - | 3 | 3 |
| 311 735\*\* | Mineral Nutrients of Plants | - | - | 3 | 3 |
| 311 779\*\* | Freshwater Biology | - | - | 3 | 3 |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | 9 | - | - | - |
| **Total** | **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** |
| 311 991\* | Dissertation Seminar II | 1 (Non Credit) | 1 (Non Credit) | 1 | 1 |
| 311 994\* | Special Problems in Biology | - | - | 2 | 2 |
| 311 701\*\* | Advanced Cell Biology | - |  | 3 | 3 |
| 311 702\*\* | Bioinformatics and Information Technology | - | - | 3 | 3 |
| 311 705\*\* | Electron Microscopy for Biology | - | - | 3 | 3 |
| 311 708\*\* | Advanced Cell Biology Laboratory | - | - | 3 | 3 |
| 311 710\*\* | Plant Growth and Development | - | - | 3 | 3 |
| 311 713\*\* | Phycology | - | - | 3 | 3 |
| 311 718\*\* | Taxonomy of Legumes | - | - | 3 | 3 |
| 311 721\*\* | Wood Anatomy | - | - | 3 | 3 |
| 311 727\*\* | Plant Variation and Evolution | - | - | 3 | 3 |
| 311 728\*\* | Plant Molecular Biology | - | - | 3 | 3 |
| 311 729\*\* | Techniques in Plant Molecular Biology | - | - | 3 | 3 |
| 311 736\*\* | Post-harvest Plant Physiology | - | - | 3 | 3 |
| 311 737\*\* | Plant Molecular Systematics | - | - | 3 | 3 |
| 311 770\*\* | Aquatic Toxicology | - | - | 3 | 3 |
| 311 780\*\* | Aquatic Insects | - | - | 3 | 3 |
| 311 781\*\* | Freshwater Zooplankton | - | - | 3 | 3 |
| 311 787\*\* | Biology of Molluscs | - | - | 3 | 3 |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | 9 | - | - | - |
| 311 999\* | Dissertation | - | - | 6 | - |
| **Total** | **9** | **9** | **9** | **9** |
| **cumulative credits** | **18** | **18** | **18** | **18** |

|  |  |
| --- | --- |
| **Second Year, 1st Semester** | **Number of Credit** |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 311 706\*\* | Systematic Classification of Organisms | - | - | 3 | 3 |
| 311 711\*\* | Plant Metabolism | - | - | 3 | 3 |
| 311 719\*\* | Taxonomy of Grasses and Sedges | - | - | 3 | 3 |
| 311 720\*\* | Modern Methods in Plant Taxonomy | - | - | 3 | 3 |
| 311 724\*\* | Plant Protoplast Cultures | - | - | 3 | 3 |
| 311 725\*\* | Gene Transfer Technology in Higher Plants | - | - | 3 | 3 |
| 311 730\*\* | Bryology | - | - | 3 | 3 |
| 311 735\*\* | Mineral Nutrients of Plants | - | - | 3 | 3 |
| 311 779\*\* | Freshwater Biology | - | - | 3 | 3 |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | 9 | - | - | - |
| 311 998\* | Dissertation | - | - | - | 3 |
| 311 999\* | Dissertation | - | - | 9 | - |
| **Total** | **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** |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | 9 | - | - | - |
| 311 998\* | Dissertation | - | - | - | 9 |
| 311 999\* | 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** |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | 9 | - | - | - |
| 311 998\* | Dissertation | - | - | - | 9 |
| 311 999\* | 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** |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | 3 | - | - | - |
| 311 998\* | Dissertation | - | - | - | 9 |
| 311 999\* | Dissertation | - | - | 3 | - |
| **Total credits** | **3** | **9** | **3** | **9** |
| **Cumulative credits** | **48** | **54** | **48** | **54** |

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| --- | --- |
| **Fourth Year, 1st Semester** | **Number of Credit** |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | - | - | - | - |
| 311 998\* | Dissertation | - | - | - | 9 |
| 311 999\* | Dissertation | - | - | - | - |
| **Total credits** | **-** | **9** | **-** | **9** |
| **Cumulative credits** | **48** | **63** | **48** | **63** |

|  |  |
| --- | --- |
| **Fourth Year, 2nd Semester** | **Number of Credit** |
| **Course number** | **Course title** | **Type 1.1** | **Type 1.2** | **Type 2.1** | **Type 2.2** |
| 311 996\* | Dissertation | - | 9 | - | - |
| 311 997\* | Dissertation | - | - | - | - |
| 311 998\* | Dissertation | - | - | - | 9 |
| 311 999\* | Dissertation | - | - | - | - |
| **Total credits** | **-** | **9** | **-** | **9** |
| **Cumulative credits** | **48** | **72** | **48** | **72** |

**Program Lecturers**

1. Prof. Dr. Arunrat Chaveerach
2. Prof. Dr. La-orsri Sanoamuang
3. Prof. Dr. Pranom Chantaranothai
4. Assoc. Prof. Dr. Alongklod Tanomtong
5. Assoc. Prof. Dr. Manit Kosittrakun
6. Assoc. Prof. Dr. Narumon Sangpradub
7. Assoc. Prof. Dr. Pinich Wangsomnuk
8. Assoc. Prof. Dr. Piyada Theerakulpisut
9. Assoc. Prof. Dr. Sumontip Bunnag
10. Assoc. Prof. Dr. Wattana Pattanagul
11. Assist. Prof. Dr. Amornrat Prajaksood
12. Assist. Prof. Dr. Chantip Chuaynkern
13. Assist. Prof. Dr. La-iad Nakkrasae
14. Assist. Prof. Dr. Nathpapat Tantisuwichwong
15. Assist. Prof. Dr. Nisarat Tungpairojwong
16. Assist. Prof. Dr. Pimwadee Pornpongrungrueng
17. Assist. Prof. Dr. Pornpimol Jearranaiprepame
18. Assist. Prof. Dr. Praweena Maneerattanarungroj
19. Assist. Prof. Dr. Preeya Wangsomnuk
20. Assist. Prof. Dr. Somphong Sithiprom
21. Assist. Prof. Dr. Sujeephon Athibai
22. Assist. Prof. Dr. Wibhu Kutanan
23. Dr. Kanlaya Kong-ngern
24. Dr. Kanlaya Sriprateep
25. Dr. Monthira Monthatong
26. Dr. Sumpars Khunsook
27. Dr. Watanachai Lontom
28. Dr. Yodchaiy Chuaynkern