**Bachelor of Science Program in Applied Mathematics (2012)**

**Name of Degree:** Bachelor of Science (Applied Mathematics)

**Abbreviation:** B.Sc. (Applied Mathematics)

**Admission Requirements**

Hold a Certificate of Upper Secondary Education or any equivalent qualification, or currently studying in the final semester of upper secondary education or equivalent education level

**Curriculum**

**Total Credits** **130 Credits**

**Curriculum Structure**

Required Courses (\*) 97 Credits

Elective Courses (\*\*) 27 Credits

Free Elective 6 Credits

**Total 130 Credits**

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| **First Year, 1st Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 000 101\* | English for Communication | 3(3-0-6) |
| 000 132\* | Life and Aesthetics | 3(3-0-6) |
| 311 111\* | Biology for Physical Science | 3(3-0-6) |
| 311 112\* | Biology for Physical Science Laboratory | 1(0-3-2) |
| 314 121\* | Calculus for Physical Science I | 3(3-0-6) |
| 322 161\* | Introduction to Information and Communication Technology | 3(2-2-5) |
| **Total credits** | | **16** |
| **Cumulative credits** | | **16** |

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| **First Year, 2nd Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 000 102\* | English for Academic Purposes I | 3(3-0-6) |
| 000 130\* | Information Literacy Skills | 3(3-0-6) |
| 000 146\* | Happiness of Life | 3(3-0-6) |
| 312 106\* | General Chemistry Laboratory | 1(0-3-2) |
| 312 108\* | Fundamental Chemistry | 3(3-0-6) |
| 314 122\* | Calculus for Physical Science II | 3(3-0-6) |
| **Total credits** | | **16** |
| **Cumulative credits** | | **32** |

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| **Second Year, 1st Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 000 103\* | English for Academic Purposes II | 3(3-0-6) |
| 000 153\* | Local Wisdom | 3(3-0-6) |
| 314 201\* | Principle of Mathematics | 3(3-0-6) |
| 314 211\* | Linear Algebra I | 3(3-0-6) |
| 323 221\* | Multivariable Calculus | 3(3-0-6) |
| 315 102\* | General Physics I | 3(3-0-6) |
| 315 181\* | General Physics Laboratory | 1(0-3-2) |
| **Total credits** | | **19** |
| **Cumulative credits** | | **51** |

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| **Second Year, 2nd Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 314 231\* | Ordinary Differential Equations | 3(3-0-6) |
| 315 103\* | General Physics II | 3(3-0-6) |
| 315 182\* | General Physics Laboratory II | 1(0-3-6) |
| 323 241\* | Computer Programming for Mathematical Works | 3(2-2-5) |
| 050 108\* | English for Sciences | 3(3-0-6) |
| 323 271\* | Probability Methods | 3(3-0-6) |
| 300 302 | Elementary to Forensic Science | 3(3-0-6) |
| **Total credits** | | **19** |
| **Cumulative credits** | | **70** |

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| **Third Year, 1st Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 000 170\* | Higher-order Thinking in Mathematics and Science | 3(3-0-6) |
| 314 313\* | Abstract Algebra I | 3(3-0-6) |
| 314 321\* | Mathematical Analysis I | 3(3-0-6) |
| 316 207\* | Probability and Statistics | 3(3-0-6) |
| 323 331\* | Elementary Applied Partial Differential Equations | 3(3-0-6) |
| 400 245 | Isan History and Archaeology for Eco-tourism | 3(3-0-6) |
| **Total credits** | | **18** |
| **Cumulative credits** | | **88** |

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| **Third Year, 2nd Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 323 333\* | Complex Variables and Applications | 3(3-0-6) |
| 323 341\* | Mathematical Models | 3(3-0-6) |
| 323 361\* | Numerical Methods | 3(2-2-5) |
| 323 245\*\* | Discrete Mathematics and Applications | 3(2-2-5) |
| 323 272\*\* | Mathematics for Finance and Investments | 3(2-2-5) |
| 323 313\*\* | Introduction to Numerical Linear Algebra | 3(3-0-6) |
| **Total credits** | | **18** |
| **Cumulative credits** | | **106** |

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| **Fourth Year, 1st Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 000 145\* | Leadership and Management | 3(3-0-6) |
| 323 491\* | Seminar in Applied Mathematics | 1(1-0-2) |
| 323 311\*\* | Applied Linear Algebra | 3(3-0-6) |
| 323 312\*\* | Number Theory and Applications | 3(3-0-6) |
| 323 372\*\* | Stochastic Processes and Markov Processes | 3(3-0-6) |
| **Total credits** | | **13** |
| **Cumulative credits** | | **119** |

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| **Fourth Year, 2nd Semester** | | **Number of Credits** |
| **Course Number** | **Course Title** |
| 323 494\* | Project in Applied Mathematics | 2(0-4-8) |
| 323 343\*\* | Linear Programming and Applications | 3(3-0-6) |
| 323 411\*\* | Algorithmic Graph Theory | 3(3-0-6) |
| 323 463\*\* | Introduction to Finite Element Methods | 3(3-0-6) |
| **Total credits** | | **11** |
| **Cumulative credits** | | **130** |

**Program Lecturers**

1. Asst. Prof. Dr. Pikul Pupasuk

2. Asst. Prof. Sunee Asadayudh

3. Asst. Prof. Teeranun Prukgantragorn

4. Dr. Somnuek Worawiset

5. Dr. Warisa Nakpim