

THE DOCTORAL PROGRAMME

MAJOR: **Zoology**

CODE: **9420101.03**

(Issued under the Decision No. 4555/QĐ-ĐHQGHN, on August 20, 2018 by
the Rector of the VNU- University of Science)

PROGRAMME STRUCTURE

1. Summary of programme curriculum requirements

1.1. For PhD students not holding master's degree

Students must complete the courses of the master's programme and the doctoral programme

Total credits for graduation: **136 credits**:

- Part 1: Supplementary courses (of the master's programme): 39 credits

+ *General knowledge*: 3 credits

+ *Basic and specialised knowledge*: 36 credits

- Part 2: Courses, seminars and overview essay of the doctoral programme: 17 credits

+ Courses: 9 credits

• *Compulsory*: 3 credits

• *Elective*: 6 credits

+ Seminars: 6 credits

+ Overview Essay: 2 credits

- Part 3: Scientific research (Being compulsory for PhD students but not account for the credits of the Doctoral programme).

- Part 4: Participating in professional activities, assisting teaching and supporting training activities (Being compulsory for PhD students but not account for the credits of the Doctoral programme).

- Part 5: PhD dissertation: 80 credits.

1.2. For PhD students holding master's degree in related discipline

Total credits for graduation: **112 credits**:

- Part 1: Supplementary courses (of the master's programme): 15 credits

+ *Compulsory*: 6 credits

+ *Elective*: 9 credits

- Part 2: Courses, seminars and overview essay of the doctoral programme: 17 credits

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|----------------------|-----------|
| + Courses: | 9 credits |
| • <i>Compulsory:</i> | 3 credits |
| • <i>Elective:</i> | 6 credits |
| + Seminars: | 6 credits |
| + Overview Essay: | 2 credits |

- Part 3: Scientific research (Being compulsory for PhD students but not account for the credits of the Doctoral programme).

- Part 4: Participating in professional activities, assisting teaching and supporting training activities (Being compulsory for PhD students but not account for the credits of the Doctoral programme).

- Part 5: PhD dissertation: 80 credits.

1.3. For PhD students holding master's degree in relevant discipline

Total credits for graduation: ***97 credits:***

- Part 1: Courses, seminars and overview assay of the doctoral programme: 17 credits

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| + Courses: | 9 credits |
| • <i>Compulsory:</i> | 3 credits |
| • <i>Elective:</i> | 6 credits |
| + Seminars: | 6 credits |
| + Overview Essay: | 2 credits |

- Part 2: Scientific research (Being compulsory for PhD students but not account for the credits of the Doctoral programme).

- Part 3: Participating in professional activities, assisting teaching and supporting training activities (Being compulsory for PhD students but not account for the credits of the Doctoral programme).

- Part 4: PhD dissertation: 80 credits.

2. Programme curriculum

2.1. For PhD students not holding master's degree

| No | Course code | Course name | Credits | Credit hours | | | Prerequisite courses |
|--|-------------|--|--------------|--------------|----------|------------|----------------------|
| | | | | Lecture | Practice | Self-study | |
| Part 1. Supplementary courses (of the master's programme) | | | | | | | |
| I. General knowledge | | | 3 | | | | |
| 1. | PHI5001 | <i>Philosophy</i> | 3 | 30 | 15 | | |
| II. Basic and specialised knowledge | | | 36 | | | | |
| II.1. Compulsory courses | | | 15 | | | | |
| 2. | BIO6001 | <i>Biosystematics</i> | 3 | 30 | | 15 | |
| 3. | BIO6002 | <i>Molecular Cell Biology</i> | 3 | 30 | | 15 | |
| 4. | BIO6062 | <i>Biodiversity and conservation</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 5. | BIO6021 | <i>Restoration Ecology and Sustainable development</i> | 2 | 20 | | 10 | BIO6001 BIO6002 |
| 6. | BIO6108 | <i>Zoogeography</i> | 2 | 20 | | 10 | BIO6001 BIO6002 |
| 7. | BIO6066 | <i>Applied animal physiology</i> | 2 | 20 | | 10 | BIO6001 BIO6002 |
| II.2. Elective courses | | | 21/42 | | | | |
| 8. | BIO6009 | <i>Population Ecology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 9. | BIO6007 | <i>Ecosystems Ecology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 10. | BIO6008 | <i>Forest Ecosystem</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 11. | BIO6010 | <i>Agro-ecosystem</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 12. | BIO6011 | <i>Aquatic Ecology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 13. | BIO6052 | <i>Terrestrial Ecology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 14. | BIO6065 | <i>Medical Arthropods</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 15. | BIO6106 | <i>Physiology of animal behavior</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 16. | BIO6105 | <i>Zoological Nomenclature</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 17. | BIO6107 | <i>Management and conservation of animal resources</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 18. | BIO6109 | <i>Ichthyology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 19. | BIO6110 | <i>Systematics of Entomology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |

| No | Course code | Course name | Credits | Credit hours | | | Prerequisite courses |
|---|-------------|--|-------------|--------------|----------|------------|----------------------|
| | | | | Lecture | Practice | Self-study | |
| 20. | BIO6111 | <i>Insect Ecology</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| 21. | BIO6112 | <i>Biodiversity of parasites</i> | 3 | 30 | | 15 | BIO6001 BIO6002 |
| Part 2. Courses, seminars and overview essay of the doctoral programme | | | | | | | |
| I. Courses | | | 9 | | | | |
| I.1. Compulsory | | | 3 | | | | |
| 22. | BIO9034 | <i>Vertebrate Fauna of Vietnam</i> | 3 | 30 | | 15 | |
| I.2. Elective | | | 6/15 | | | | |
| 23. | BIO8012 | <i>Zoogeography of Vietnam</i> | 3 | 30 | | 15 | |
| 24. | BIO9035 | <i>Management and conservation of wild animals</i> | 3 | 30 | | 15 | |
| 25. | BIO9036 | <i>Bird and mammal research methods</i> | 3 | 30 | | 15 | |
| 26. | BIO9037 | <i>Herpetological research methods</i> | 3 | 30 | | 15 | |
| 27. | BIO9038 | <i>Fish research methods</i> | 3 | 30 | | 15 | |
| II. Seminars | | | 6 | | | | |
| 28. | BIO9031 | <i>Special Topics 1</i> | 2 | | | | |
| 29. | BIO9032 | <i>Special Topics 2</i> | 2 | | | | |
| 30. | BIO9033 | <i>Special Topics 3</i> | 2 | | | | |
| III. Overview Essay | | | 2 | | | | |
| 31. | BIO8023 | <i>Overview Essay</i> | 2 | | | | |
| Part 3. Scientific research | | | | | | | |
| | | PhD students establish the research plan, implementate and publish the results of their dissertations in the scientific journals under the guidance of their supervisors. | | | | | |
| Part 4. Participating in professional activities, assissting teaching and supporting training activities | | | | | | | |
| | | Department (professional unit) constructs a timetable for professional acitivities and schedules for each PhD student to present his/her professional acitivities in the seminar organised by the Department for each academic year. It is obligated to PhD students to attend all scientific seminars/conferences/symposiums organised/required by the Department | | | | | |
| Part 5. PhD dissertation | | | | | | | |
| 32. | BIO9002 | <i>PhD dissertation</i> | 80 | | | | |
| Total: | | | 136 | | | | |

2.2. For PhD students holding master's degree in related discipline

| No | Course code | Course name | Credits | Credit hours | | | Prerequisite courses |
|---|-------------|--|-------------|--------------|----------|------------|----------------------|
| | | | | Lecture | Practice | Self-study | |
| Part 1. Supplementary courses (of the master's programme) | | | | | | | |
| I.1. Compulsory course | | | 6 | | | | |
| 1. | BIO6021 | <i>Restoration Ecology and Sustainable development</i> | 2 | 20 | | 10 | |
| 2. | BIO6108 | <i>Zoogeography</i> | 2 | 20 | | 10 | |
| 3. | BIO6066 | <i>Applied animal physiology</i> | 2 | 20 | | 10 | |
| I.2. Elective courses | | | 9/18 | | | | |
| 4. | BIO6009 | <i>Population Ecology</i> | 3 | 30 | | 15 | |
| 5. | BIO6105 | <i>Zoological Nomenclature</i> | 3 | 30 | | 15 | |
| 6. | BIO6106 | <i>Physiology of animal behavior</i> | 3 | 30 | | 15 | |
| 7. | BIO6107 | <i>Management and conservation of animal resources</i> | 3 | 30 | | 15 | |
| 8. | BIO6109 | <i>Ichthyology</i> | 3 | 30 | | 15 | |
| 9. | BIO6052 | <i>Terrestrial Ecology</i> | 3 | 30 | | 15 | |
| Part 2. Courses, seminars and overview essay of the doctoral programme | | | | | | | |
| I. Courses | | | 9 | | | | |
| I.1. Compulsory | | | 3 | | | | |
| 10. | BIO9034 | <i>Vertebrate Fauna of Vietnam</i> | 3 | 30 | | 15 | |
| I.2. Elective | | | 6/15 | | | | |
| 11. | BIO8012 | <i>Zoogeography of Vietnam</i> | 3 | 30 | | 15 | |
| 12. | BIO9035 | <i>Management and conservation of wild animals</i> | 3 | 30 | | 15 | |
| 13. | BIO9036 | <i>Bird and mammal research methods</i> | 3 | 30 | | 15 | |
| 14. | BIO9037 | <i>Herpetological research methods</i> | 3 | 30 | | 15 | |
| 15. | BIO9038 | <i>Fish research methods</i> | 3 | 30 | | 15 | |
| II. Seminars | | | 6 | | | | |
| 16. | BIO9031 | <i>Special Topics 1</i> | 2 | | | | |
| 17. | BIO9032 | <i>Special Topics 2</i> | 2 | | | | |
| 18. | BIO9033 | <i>Special Topics 3</i> | 2 | | | | |
| III. Overview Essay | | | 2 | | | | |
| 19. | BIO8023 | <i>Overview Essay</i> | 2 | | | | |

| No | Course code | Course name | Credits | Credit hours | | | Prerequisite courses |
|---|-------------|---|------------|--------------|----------|------------|----------------------|
| | | | | Lecture | Practice | Self-study | |
| Part 3. Scientific research | | | | | | | |
| | | PhD students establish the research plan, implementate and publish the results of their dissertations in the scientific journals under the guidance of their supervisors. | | | | | |
| Part 4. Participating in professional activities, assissting teaching and supporting training activities | | | | | | | |
| | | Department (professional unit) constructs a timetable for professional acitivities and schedules for each PhD student to present his/her professional acitivities in the seminar organised by the Department for each academic year. It is obligated to PhD students to attend all scientific seminars/conferences/symposiums organised/required by the Department. | | | | | |
| Part 5. PhD dissertation | | | | | | | |
| 20. | BIO9002 | <i>PhD dissertation</i> | 80 | | | | |
| Total: | | | 112 | | | | |

2.3. For PhD students holding master's degree in relevant discipline

| No | Course code | Course name | Credits | Credit hours | | | Prerequisite courses |
|---|-------------|---|-------------|--------------|----------|------------|----------------------|
| | | | | Lecture | Practice | Self-study | |
| Part 1. Courses, seminars and overview essay of the doctoral programme | | | | | | | |
| I. Courses | | | 9 | | | | |
| I.1. Compulsory courses | | | 3 | | | | |
| 1. | BIO9034 | <i>Vertebrate Fauna of Vietnam</i> | 3 | 30 | | 15 | |
| I.2. Elective courses | | | 6/15 | | | | |
| 2. | BIO8012 | <i>Zoogeography of Vietnam</i> | 3 | 30 | | 15 | |
| 3. | BIO9035 | <i>Management and conservation of wild animals</i> | 3 | 30 | | 15 | |
| 4. | BIO9036 | <i>Bird and mammal research methods</i> | 3 | 30 | | 15 | |
| 5. | BIO9037 | <i>Herpetological research methods</i> | 3 | 30 | | 15 | |
| 6. | BIO9038 | <i>Fish research methods</i> | 3 | 30 | | 15 | |
| II. Seminars | | | 6 | | | | |
| 7. | BIO9031 | <i>Special Topics 1</i> | 2 | | | | |
| 8. | BIO9032 | <i>Special Topics 2</i> | 2 | | | | |
| 9. | BIO9033 | <i>Special Topics 3</i> | 2 | | | | |
| III. Overview Essay | | | 2 | | | | |
| 10. | BIO8023 | <i>Overview Essay</i> | 2 | | | | |
| Part 2. Scientific research | | | | | | | |
| | | PhD students establish the research plan, implementate and publish the results of their dissertations in the scientific journals under the guidance of their supervisors. | | | | | |
| Part 3. Participating in professional activities, assissting teaching and supporting training activities | | | | | | | |
| | | Department (professional unit) constructs a timetable for professional acitivities and schedules for each PhD student to present his/her professional acitivities in the seminar organised by the Department for each academic year. It is obligated to PhD students to attend all scientific seminars/conferences/symposiums organised/required by the Department. | | | | | |
| Part 4. PhD dissertation | | | | | | | |
| 11. | BIO9002 | <i>PhD dissertation</i> | 80 | | | | |
| Total: | | | 97 | | | | |