Benha University
Faculty of Science
Department of Entomology

Insect Control Ph.D. Program Specification

Insect Control Ph.D. Program Specification

A. Basic Information

Program Title:	**Insect Control Ph.D.** Program
Program Type:	single
Department:	Entomology Departement
Coordinator:	Prof. Dr. Faten Faried Abu Eldahb
Assistant Co-ordinator:	Dr. Yasser A. El-Sayed
	Dr. Mohamed M. Baz

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

By the end of the Ph.D. in Insect Control program graduates must be able to:

1.1. Enhance the postgraduate knowledge and skills in entomological sciences and their related disciplines, applications and tools to the management/solution of the scientific problems related to insect control.

1.2. Increase the ability and participation of the graduate in the development and implementation of entomological studies policies, strategies and planning as well as Collecting, summarizing, presenting data and undertaking professional and ethical responsibilities.

1.3. Broadcast the experience through effective interaction to enhance the performance of the profession and promote community development, keeping the ethics of scientific re search.

2. Intended Learning Outcomes (ILO's)

2.1 Knowledge and Understanding

By the end of the Ph.D. in Insect Control program graduates must be able to:

2.1.1. Mentions theories and bases of entomological sciences and the other related fields.
2.1.2. Understand the mutual influence between the professional practices of entomological science and it is reflection in the environment
2.1.3. Indicate to scientific progress in the area of insect control.
2.1.4. Recognize the methods applied for interpreting and analyzing biological information.
2.1.5. Show the recent experimental methodology in insect control.
2.1.6. Indicate the principles of quality in the professional practice in insect control.

2.2 Intellectual Skills

By the end of the Ph.D. in Insect Control program graduates must be able to:

2.2.1 Apply knowledge and understanding emphasis in solving problem
2.2.2. Write a methodological scientific study on research problems.
2.2.3. Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.
2.2.4. Analyze and estimate knowledge in the area of insect control.

2.3 Professional and Practical Skills

By the end of the Ph.D. in Insect Control program graduates must be able to:

2.3.1. Apply perfectly the bases and modern professional skills in pest control.
2.3.2. Write and evaluate professional report in entomological fields.
2.3.3. Approximate methods and tools in the area of insect control.
2.3.4. Prepare and develop annual management plans based on scientific observation.

2.4 General Skills

By the end of the Ph.D. in Insect Control program graduates must be able to:

2.4.1. Communicate and exchange the information effectively through seminars and discussion meetings.
2.4.2. Life-long learning and self development.
2.4.3. Search and get information from different resources

3- Academic standards of the program

The Academic Reference Standards (ARS) of this program is based upon the General Academic Standards of postgraduate programs published by the National Authority of Quality Assurance and Accreditation of Education in (2009). Specific Academic Reference Standards for Ph.D. in Entomology were approved by the Council of Faculty of Science, Benha University in --/--/2015 (**Appendices 1, 2, 3, 4, 5 and 6**).

4- Reference indices (Benchmarks)

Not utilized.

5- Program structure and contents

5.1. Program duration: 3-5 years.

5.2. Program structure:

to acquire Doctorate 's degree in science in Insect control Ph.D. Program, student should be performed the number of 12 credit optional hours of study of courses for the post-bachelor's in addition to the record number of 48 credit hours of scientific message during the study period.

Program structure	Credit hours
Optional courses	**12**
Research and preparing the Ph.D. thesis	**48**
Total	**60**

5.3. Program Courses:

- **Optional courses:**

Code No.	Course Title	No. of hours		
		Lectures	Practical	Credit hours
The graduate studies (12 hours)				
701E	Preparing and writing scientific thesis	2	-	2
702E	Advaced genetic engineer and molecular biology	2	-	2
703E	Advanced social insects	2	-	2
704E	Insects in fornesic medicine	2	-	2
705 E	Household	2	-	2
706 E	Advanced medical entomology	2	-	2
707 E	Stored grain insects	2	-	2
708E	Selective topic	2	-	2
709E	Advanced Pest management	2	-	2
710E	Advanced insect growth regulator	2	-	2
711E	Beneficial insects	2	-	2
712E	Biological clocks	2	-	2
713E	Vegetables &Fruits	2	-	2
714E	Toxicology	2	-	2
715E	Advanced tissue culture	2	-	2
716E	Fine structure of insects	2	-	2
717E	Advanced taxonomy	2	-	2
718E	Insect histochemistry	2	-	2

719E	Species conservation and environment management	2	-	2
720 E	Aquatic Insects	2	-	2
721 E	Therapy by insects	2	-	2
48 credit hours for research and preparing the PhD thesis				
799 E	Doctoral thesis	-	-	48

6- Contents of the Courses

See course specification (**Appendix 7 and 8**)

7- Program admission requirements

١. يشترط لقيد الطالب لنيل درجة دكتوراه الفلسفة في العلوم أن يكون حاصلا على درجة ماجستير في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو أى درجة معادلة لها من معهد علمي أخر معترف به من المجلس الأعلى للجامعات.
٢. المدة اللازمة للحصول على درجة دكتوراه الفلسفة في العلوم ثلاث سنوات على الأقل منذ موافقة الجامعة علي التسجيل، وبحد أقصي خمس سنوات (المدة الأساسية) ويمكن مد التسجيل لمدة استثنائية لا تزيد عن ثلاث سنوات بناءا على التقارير العلمية المقدمة من لجنة الأشرف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات العليا والبحوث بالجامعة.
٣. يشترط لتسجيل الطالب لدرجة دكتوراه الفلسفة في العلوم اجتياز امتحان اتقان اللغة الانجليزية او ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أى شروط أضافية تراها الكلية والجامعة لازمة للقيد والتسجيل للدرجة.

8- Regulations for progression and program completion:

١. أن ينجز الطالب عدد ١٢ ساعة دراسية معتمدة من المقررات الدراسية لمرحلة ما بعد الماجستيرمتزامنة مع التسجيل للرسالة العلمية (تحسب ٤٨ ساعة معتمدة) ويخصص لكل ساعة معتمدة خمسون درجة.
٢. يقوم الطالب باجراء مناقشة علنية لخطة البحث (سيمينار) على أن يوافق عليها مجلس القسم تمهيدا لتسجيله للدرجة.
٣. تعقد امتحانات الدراسة الخاصة بالدكتوراه في نهاية كل فصل دراسي في المواعيد التي يقرها مجلس الكليةبناءً علي اقتراح مجالس الأقسام.
٤. يقوم الطالب باجراء بحث ذا قيمة علمية تمثل إضافة علمية جديدة قائمة علي البحث المبتكر في موضوع يقره مجلس القسم ولجنة الدراسات العليا و مجلس الكلية ومجلس الدراسات العليا بالجامعة على أن يقدم الطالب نتائج بحثه في رسالة تقبلها لجنة الحكم، و يقوم الطالب بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر علي الأقل.
٥. يمنح الطالب درجة دكتوراه الفلسفة في العلوم ويذكر في الشهادة التخصص العام والدقيق وعنوان الرسالة.

٦. يرجع للائحة التنفيذية لقانون تنظيم الجامعات فيما لم يرد به نص في هذه اللائحة.

9- Methods and rules of evaluation of graduates enrolled in the program:

9.1. Theoretical courses:

Method of Assessment	Marks	learning outcomes assessed	Weighting
Midterm exam & Semester work	10	Measure knowledge, understanding (a.1-a.3), intellectual skills (b.1, b.5), professional (c.1) and general skills (d.1, d.3)	10%
Final Oral Exam	10	Measure knowledge, understanding (a.2,a.4), intellectual skills (b.3- b.5), and general skills (d.3, d.6-d.7) لا يوجد مهارات مهنية	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.7), intellectual skills (b.1-b8) لا يوجد مهارات مهنية ولا عامة	80%
Total	100		100%

9.2. Doctorate Thesis evaluation:

- The senior supervisor reports.
- Individual Reports of the Judge Committee
  (Three specialist professors including the senior supervisor).
- The Public Discussion
- The Common Report of the Judge Committee.
- Department, Faculty and University Boards.

• Assessment Recommendations:

-The Judge Committee has to recommend one of the following:

- Accepting the thesis as it is.
- Accept the thesis and recommends awarding after correction performing.
- Delaying awarding for maximum three months to perform corrections.
- Re-displaying the thesis to the judge committee within limited period.
- Rejecting the thesis at all.

10. Teaching and learning strategies used in the program:

10.1. Outcome based learning.
10.2. Brainstorming strategy.
10.3. Problem-solving strategy.
10.4. Cooperative learning strategy.
10.5. Independent Study strategy.

11. Evaluation of program:

Evaluator	Tool	Sample
1- Internal Evaluators	Reports	Reports 1-2
2- External Evaluators	Reports	Reports 1-2
3- Senior Students	Questionnaire	Questionnaire not less than 25%
4- Alumni	Questionnaire	Questionnaire not less than 25%
5- Stakeholders	Questionnaire, inter-view	Representative for all sectors

Head of the department: Prof. Dr. Faten Faried Abu Eldahb
Date: 2015 / 2016

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Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

By the end of the Ph.D. in Insect Ecology program graduates must be able to:

1.1. Enhance the graduate knowledge and skills in entomological sciences and their related disciplines, applications and tools to the management/solution of the scientific problems related to insect ecology.

1.2. Increase the ability and participation of the graduate in the development and implementa tion of entomological studies policies, strategies and planning as well as Collecting, summarizing, presenting data and undertaking professional and ethical responsibilities.

1.3. Broadcast the experience through effective interaction to enhance the performance of the profession and promote community development, keeping the ethics of scientific research.

2. Intended Learning Outcomes (ILO's)

2.1 Knowledge and Understanding

By the end of the Ph.D. in Insect Ecology program graduates must be able to:

2.1.1. Mentions theories and bases of entomological sciences and the other related fields.
2.1.2. Understand the mutual influence between the professional practices of entomological science and it is reflection in the environment.
2.1.3. Indicate to scientific progress in the area of insect ecology.
2.1.4. Choose the methods applied for interpreting and analyzing biological information
2.1.5. Show the recent experimental methodology in insect ecology.
2.1.6. Indicate the principles of quality in the professional practice in insect ecology.

2.2 Intellectual Skills

By the end of the Ph.D. in Insect Ecology program graduates must be able to:

2.2.1. Application of knowledge and understanding emphasis in solving problems.
2.2.2. Write a methodological scientific study on research problems.
2.2.3. Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.
2.2.4. Make decisions in various professional contexts.
2.2.5. Plan to develop performance in the area of entomological sciences.
2.2.6. Evaluate the risks in professional practices in the area of insect ecology.
2.2.7. Analyze and estimate knowledge in the area of insect ecology.
2.2.8. Read and understand scientific figures and writing

2.3 Professional and Practical Skills

By the end of the Ph.D. in Insect Ecology program graduates must be able to:

2.3.1. Apply perfectly the bases and modern professional skills in insect ecology.
2.3.2. Use instruments with accuracy in experimental data.
2.3.3. Write and evaluate professional report in entomological fields.
2.3.4. Approximate methods and tools in the area of entomological sciences.
2.3.5. Prepare and develop annual management plans based on scientific observation.

2.4 General Skills

By the end of the Ph.D. in Insect Ecology program graduates must be able to:

2.4.1. Communicate and exchange the information effectively through seminars and discussion meetings.
2.4.2. Life-long learning and self-development
2.4.3. Present information and express ideas through writing essays and orally
2.4.4. Work in team and comprehend and assume the interchangeable role of leaders and followers.
2.4.5. Possess good project management.
2.4.6. Use and search for information technology.

3- Academic standards of the program

The Academic Reference Standards (ARS) of this program is based upon the General Academic Standards of postgraduate programs published by the National Authority of Quality Assurance and Accreditation of Education in (2009). Specific Academic Reference Stand- ards for Ph.D. in Entomology were ap-

proved by the Council of Faculty of Science, Benha University in --/--/2015 (**Appendices 1, 2, 3, 4, 5 and 6**).

4- Reference indices (Benchmarks)

Not utilized.

5- Program structure and contents

5.1. Program duration: 3-5 years.

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to acquire Doctorate 's degree in science in Insect ecology Ph.D. Program, student should be performed the number of 12 credit optional hours of study of courses for the post-bachelor's in addition to the record number of 48 credit hours of scientific message during the study period.

Program structure	Credit hours
Optional courses	**12**
Research and preparing the Ph.D. thesis	**48**
Total	**60**

5.3. Program Courses:

- **Optional courses:**

Code No.	Course Title	No. of hours		
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6- Contents of the Courses

See course specification (**Appendix 7 and 8**)

7- Program admission requirements

١. يشترط لقيد الطالب لنيل درجة دكتوراه الفلسفة في العلوم أن يكون حاصلا على درجة ماجستير في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو أى درجة معادلة لها من معهد علمي أخر معترف به من المجلس الأعلى للجامعات.
٢. المدة اللازمة للحصول على درجة دكتوراه الفلسفة في العلوم ثلاث سنوات على الأقل منذ موافقة الجامعة علي التسجيل، وبحد أقصي خمس سنوات (المدة الأساسية) ويمكن مد التسجيل لمدة استثنائية لا تزيد عن ثلاث سنوات بناءا على التقارير العلمية المقدمة من لجنة الأشرف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات العليا والبحوث بالجامعة.
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تمهيدا لتسجيله للدرجة.

٣. تعقد امتحانات الدراسة الخاصة بالدكتوراه في نهاية كل فصل دراسي في المواعيد التي يقرها مجلس الكليةبناءً علي اقتراح مجالس الأقسام.

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٥. يمنح الطالب درجة دكتوراه الفلسفة في العلوم ويذكر في الشهادة التخصص العام والدقيق وعنوان الرسالة.

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Final Oral Exam	10	Measure knowledge, understanding (a.2,a.4), intellectual skills (b.3- b.5), and general skills (d.3, d.6-d.7) **لا يوجد مهارات مهنية**	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.7), intellectual skills (b.1-b8) **لا يوجد مهارات مهنية ولا عامة**	80%
Total	100		100%

9.2. Doctorate Thesis evaluation:

- The senior supervisor reports.
- Individual Reports of the Judge Committee
  (Three specialist professors including the senior supervisor).
- The Public Discussion
- The Common Report of the Judge Committee.
- Department, Faculty and University Boards.

• Assessment Recommendations:

-The Judge Committee has to recommend one of the following:

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- Accept the thesis and recommends awarding after correction performing.
- Delaying awarding for maximum three months to perform corrections.
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10. Teaching and learning strategies used in the program:

10.1. Outcome based learning.
10.2. Brainstorming strategy.
10.3. Problem-solving strategy.
10.4. Cooperative learning strategy.
10.5. Independent Study strategy.

11. Evaluation of program:

Evaluator	Tool	Sample
1- Internal Evaluators	Reports	Reports 1-2
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5- Stakeholders	Questionnaire, inter-view	Representative for all sectors

Head of the department: Prof. Dr. Faten Faried Abu Eldahb
Date: 2015 / 2016

Insect Physiology Ph.D. Program Specification

Insect Physiology Ph.D. Program

Ph.D. in Insect Physiology Program

A. Basic Information

Program Title:	Ph.D. in Insect Physiology Program
Program Type:	Single
Department:	Entomology Departement
Coordinator:	Prof. Dr. Faten Faried Abu Eldahb
Assistant Co-ordinator:	Dr. Yasser A. El-Sayed
	Dr. Mohamed M. Baz

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program Aims

By the end of the Ph.D. in Insect Physiology Program graduates must be able to:

1.1. Mastering concepts, principles and applications of Physiology.
1.2. Commitment to continuing self learning with work on the addendum to the knowledge in Physiology and transfer of knowledge and expertise to others.
1.3. Application of the analytical method and critic of knowledge in Physiology and related areas.
1.4. Use Physiological knowledge combined with related knowledge to find innovative solutions for professional problems.
1.5. Mastery of a wide range of professional skills in Physiology and development of methods and tools, and new techniques in professional practice.
1.6. Communicate effectively and have the ability to lead teams and make decisions in light of available information.
1.7. Show awareness of his/her role in community development and preservation of the environment.
1.8. Behave in a manner reflecting the commitment to integrity and credibility of the profession and abide by the rules.

2. Intended Learning Outcomes (ILO's)

2.1. Knowledge and Understanding

By the end of the Ph.D. in Insect Physiology Program graduates must be able to know and understand the followings:

2.1.1 Theories and fundamentals and modern knowledge in Physiology and related sciences in Entomology.
2.1.2. The basics and ethics of the scientific research in Physiology.
2.1.3. Legal and ethical principles for professional practice in Physiology.
2.1.4. Principles and fundamentals of quality in professional practice in Physiology.
2.1.5. Knowledge related to the effects of professional practice on the environment and society and ways of development and preservation of the environment.

2.2 Intellectual Skills

By the end of the Ph.D. in Insect Physiology Program graduates must be able to:

2.2.1. Analyze and evaluate the information in Physiology and related sciences in Entomology.
2.2.2. Interpret and correlate data for solve problems in Physiology and related sciences in Entomology.
2.2.3. Develop research study which contributes to add the knowledge in Physiology and related sciences in Entomology.
2.2.4. Formulate scientific research in Physiology.
2.2.5. Evaluate risks during the professional practice in Physiology.
2.2.6. Planning and innovation for the development of performance in Physiology.
2.2.7. Make professional decisions in professional practices in Physiology.

2.3. Professional and Practical Skills

By the end of the Ph.D. in Insect Physiology Program graduates must be able to:

2.3.1. Mastery of basic, professional and modern skills Physiology.
2.3.2. Writing and evaluation of professional reports in Physiology and related sciences in Entomology.

2.3.3. Label different methodology and techniques in Physiology and related sciences in Entomology.
2.3.4. Use technological means to serve the professional practice in Physiology.
2.3.5. Planning for the development of professional practice and development of the performance of others.

2.4. General Skills and Transition

By the end of the Ph.D. in Insect Physiology Program graduates must be able to:

2.4.1. Communicate effectively by using different methods.
2.4.2. Use of information technology to development of professional practice and to obtain information and knowledge.
2.4.3. Teach others and evaluate their performance during laboratory works
2.4.4. Self-evaluation and continuous learning.
2.4.5. Work in a team and lead working groups.
2.4.6. Management of scientific meetings and the ability to manage time.

3- Academic standards of the program

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711E	Beneficial insects	2	-	2
712E	Biological clocks	2	-	2
713E	Vegetables &Fruits	2	-	2
714E	Toxicology	2	-	2
715E	Advanced tissue culture	2	-	2
716E	Fine structure of insects	2	-	2
717E	Advanced taxonomy	2	-	2
718E	Insect histochemistry	2	-	2
719E	Species conservation and environment management	2	-	2
720 E	Aquatic Insects	2	-	2
721 E	Therapy by insects	2	-	2
48 credit hours for research and preparing the PhD thesis				
799 E	Doctoral thesis	-	-	48

6- Contents of the Courses

See course specification (**Appendix 7 and 8**)

7- Program admission requirements

١. يشترط لقيد الطالب لنيل درجة دكتوراه الفلسفة في العلوم أن يكون حاصلا على درجة ماجستير في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو أى درجة معادلة لها من معهد علمي أخر معترف به من المجلس الأعلى للجامعات.
٢. المدة اللازمة للحصول على درجة دكتوراه الفلسفة في العلوم ثلاث سنوات على الأقل منذ موافقة الجامعة علي التسجيل، وبحد أقصي خمس سنوات (المدة الأساسية) ويمكن مد التسجيل لمدة استثنائية لا تزيد عن ثلاث سنوات بناءا على التقارير العلمية المقدمة من لجنة الأشرف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات العليا والبحوث بالجامعة.
٣. يشترط لتسجيل الطالب لدرجة دكتوراه الفلسفة في العلوم اجتياز امتحان اتقان اللغة الانجليزية او ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أى شروط أضافية تراها الكلية والجامعة لازمة للقيد والتسجيل للدرجة.

8- Regulations for progression and program completion:

١. أن ينجز الطالب عدد ١٢ ساعة دراسية معتمدة من المقررات الدراسية لمرحلة ما بعد الماجستيرمتزامنة مع التسجيل للرسالة العلمية (تحسب ٤٨ ساعة معتمدة) ويخصص لكل ساعة معتمدة خمسون درجة.
٢. يقوم الطالب باجراء مناقشة علنية لخطة البحث (سيمينار) على أن يوافق عليها مجلس القسم تمهيدا لتسجيله للدرجة.
٣. تعقد امتحانات الدراسة الخاصة بالدكتوراه في نهاية كل فصل دراسي في المواعيد التي يقرها مجلس الكليةبناءً علي اقتراح مجالس الأقسام.
٤. يقوم الطالب باجراء بحث ذا قيمة علمية تمثل إضافة علمية جديدة قائمة علي البحث المبتكر في موضوع يقره مجلس القسم ولجنة الدراسات العليا و مجلس الكلية ومجلس الدراسات العليا بالجامعة على أن يقدم الطالب نتائج بحثه في رسالة تقبلها لجنة الحكم، و يقوم الطالب بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر علي الأقل.
٥. يمنح الطالب درجة دكتوراه الفلسفة في العلوم ويذكر في الشهادة التخصص العام والدقيق وعنوان الرسالة.
٦. يرجع للائحة التنفيذية لقانون تنظيم الجامعات فيما لم يرد به نص في هذه اللائحة.

9- Methods and rules of evaluation of graduates enrolled in the program:

9.1. Theoretical courses:

Method of Assessment	Marks	learning outcomes assessed	Weighting
Midterm exam & Semester work	10	Measure knowledge, understanding (a.1-a.3), intellectual skills (b.1, b.5), professional (c.1) and general skills (d.1, d.3)	10%
Final Oral Exam	10	Measure knowledge, understanding (a.2,a.4), intellectual skills (b.3- b.5), and general skills (d.3, d.6-d.7) لا يوجد مهارات مهنية	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.7), intellectual skills (b.1-b8) لا يوجد مهارات مهنية ولا عامة	80%
Total	100		100%

9.2. Doctorate Thesis evaluation:

- The senior supervisor reports.
- Individual Reports of the Judge Committee
  (Three specialist professors including the senior supervisor).
- The Public Discussion
- The Common Report of the Judge Committee.
- Department, Faculty and University Boards.

• Assessment Recommendations:

-The Judge Committee has to recommend one of the following:

- Accepting the thesis as it is.
- Accept the thesis and recommends awarding after correction performing.
- Delaying awarding for maximum three months to perform corrections.
- Re-displaying the thesis to the judge committee within limited period.
- Rejecting the thesis at all.

10. Teaching and learning strategies used in the program:

10.1. Outcome based learning.
10.2. Brainstorming strategy.
10.3. Problem-solving strategy.
10.4. Cooperative learning strategy.
10.5. Independent Study strategy.

11. Evaluation of program:

Evaluator	Tool	Sample
1- Internal Evaluators	Reports	Reports 1-2
2- External Evaluators	Reports	Reports 1-2
3- Senior Students	Questionnaire	Questionnaire not less than 25%
4- Alumni	Questionnaire	Questionnaire not less than 25%
5- Stakeholders	Questionnaire, inter-view	Representative for all sectors

Head of the department: Prof. Dr. Faten Faried Abu Eldahb
Date: 2015 / 2016

Benha University
Faculty of Science
Department of Entomology

Insect Taxonomy Ph.D. Program Specification

Insect Taxonomy Ph.D. Program

Insect Taxonomy Ph.D. Program Specification

A. Basic Information

Program Title:	**Insect Taxonomy Ph.D.** Program
Program Type:	single
Department:	Entomology Departement
Coordinator:	Prof. Dr. Faten Faried Abu Eldahb
Assistant Co-ordinator:	Dr. Yasser A. El-Sayed
	Dr. Mohamed M. Baz

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

By the end of the Ph.D. in Insect Taxonomy program graduates must be able to:

1.1. Improve the ability of graduate knowledge and skills in entomological sciences and their related disciplines, applications and tools to the management of the scientific problems related to insectsTaxonomy.
1.2. Demonstrate proficiency in applications of basics and methodologies of scientific research.
1.3. Improve performance of the profession and promote community development, keeping the ethics of scientific research.
1.4. Apply of the analytical method and critic of knowledge in entomology and related areas.
1.5. Work effectively in a team and possessing the management and communication skills.
1.6. Make decisions in light of available information.

2. Intended Learning Outcomes (ILO's)

2.1 Knowledge and Understanding

By the end of the Ph.D. in Insect Taxonomy program graduates must be able to:

2.1.1 Recognize knowledge related to the impact of different manipulations on the environment and ways of its protection.
2.1.2 Realizes scientific progress in the area of insect taxonomy.
2.1.3 Understand the principles and fundamentals of quality in professional practice in entomology.
2.1.4 Exercise the principles of quality in the professional practice in insect taxonomy.
2.1.5 Intake the methods applied for interpreting and analyzing biological information.
2.1.6 Know application of the analytical method and critic of knowledge in entomology and related areas.

2.2 Intellectual Skills

By the end of the Ph.D. in Insect Taxonomy program graduates must be able to:

2.2.1 Evaluate risks during the professional practice in the field of entomology.
2.2.2 Apply a methodological scientific study on research problems.
2.2.3 Plan and conduct a research task to solve problem.
2.2.4 Analyze and estimate knowledge in the area of insect taxonomy.
2.2.5 Make professional decisions in professional practices in the field of entomology.
2.2.6 Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.

2.3 Professional and Practical Skills

By the end of the Ph.D. in Insect Taxonomy program graduates must be able to:

2.3.1 Apply perfectly the bases and modern professional skills in insect taxonomy.
2.3.2 Write and evaluate professional report in entomological fields.
2.3.3 Make professional decisions in professional practices in the field of insect taxonomy.
2.3.4 Prepare and develop annual management plans based on scientific observation.

2.4 General Skills

By the end of the Ph.D. in Insect Taxonomy program graduates must be able to:

2.4.1 Communicate and exchange the information effectively through seminars and discussion meetings.
2.4.2 Life-long learning and self development.
2.4.3 Work in team and comprehend and assume the interchangeable role of leaders and followers.
2.4.4 Search and get information from different resources .
2.4.5 Life-long learning and self development.
2.4.6 Develop lines of argument and appropriate judgment in accordance withscientific theories and concepts.

3- Academic standards of the program

The Academic Reference Standards (ARS) of this program is based upon the General Academic Standards of postgraduate programs published by the National Authority of Quality Assurance and Accreditation of Education in (2009). Specific Academic Reference Standards for Ph.D. in Entomology were approved by the Council of Faculty of Science, Benha University in --/--/2015 (**Appendices 1, 2, 3, 4, 5 and 6**).

4- Reference indices (Benchmarks)

Not utilized.

5- Program structure and contents

5.1. Program duration: 3-5 years.

5.2. Program structure:

to acquire Doctorate 's degree in science in Insect Taxonomy Ph.D. Program, student should be performed the number of 12 credit optional hours of study of courses for the post-bachelor's in addition to the record number of 48 credit hours of scientific message during the study period.

Program structure	Credit hours
Optional courses	**12**
Research and preparing the Ph.D. thesis	**48**
Total	**60**

5.3. Program Courses:

- **Optional courses:**

Code No.	Course Title	No. of hours		
		Lectures	Practical	Credit hours
The graduate studies (12 hours)				
701E	Preparing and writing scientific thesis	2	-	2
702E	Advaced genetic engineer and molecu-lar biology	2	-	2
703E	Advanced social insects	2	-	2
704E	Insects in fornesic medicine	2	-	2
705 E	Household	2	-	2
706 E	Advanced medical entomology	2	-	2
707 E	Stored grain insects	2	-	2
708E	Selective topic	2	-	2
709E	Advanced Pest management	2	-	2
710E	Advanced insect growth regulator	2	-	2
711E	Beneficial insects	2	-	2
712E	Biological clocks	2	-	2
713E	Vegetables &Fruits	2	-	2
714E	Toxicology	2	-	2
715E	Advanced tissue culture	2	-	2

716E	Fine structure of insects	2	-	2
717E	Advanced taxonomy	2	-	2
718E	Insect histochemistry	2	-	2
719E	Species conservation and environment management	2	-	2
720 E	Aquatic Insects	2	-	2
721 E	Therapy by insects	2	-	2
48 credit hours for research and preparing the PhD thesis				
799 E	Doctoral thesis	-	-	48

6- Contents of the Courses

See course specification (**Appendix 7 and 8**)

7- Program admission requirements

١. يشترط لقيد الطالب لنيل درجة دكتوراه الفلسفة في العلوم أن يكون حاصلا على درجة ماجستير في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو أى درجة معادلة لها من معهد علمي أخر معترف به من المجلس الأعلى للجامعات.
٢. المدة اللازمة للحصول على درجة دكتوراه الفلسفة في العلوم ثلاث سنوات على الأقل منذ موافقة الجامعة علي التسجيل، وبحد أقصي خمس سنوات (المدة الأساسية) ويمكن مد التسجيل لمدة استثنائية لا تزيد عن ثلاث سنوات بناءا على التقارير العلمية المقدمة من لجنة الأشرف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات العليا والبحوث بالجامعة.
٣. يشترط لتسجيل الطالب لدرجة دكتوراه الفلسفة في العلوم اجتياز امتحان اتقان اللغة الانجليزية او ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أى شروط أضافية تراها الكلية والجامعة لازمة للقيد والتسجيل للدرجة.

8- Regulations for progression and program completion:

١. أن ينجز الطالب عدد ١٢ ساعة دراسية معتمدة من المقررات الدراسية لمرحلة ما بعد الماجستيرمتزامنة مع التسجيل للرسالة العلمية (تحسب ٤٨ ساعة معتمدة) ويخصص لكل ساعة معتمدة خمسون درجة.
٢. يقوم الطالب باجراء مناقشة علنية لخطة البحث (سيمينار) على أن يوافق عليها مجلس القسم تمهيدا لتسجيله للدرجة.
٣. تعقد امتحانات الدراسة الخاصة بالدكتوراه في نهاية كل فصل دراسي في المواعيد التي يقرها مجلس الكليةبناءً علي اقتراح مجالس الأقسام.
٤. يقوم الطالب باجراء بحث ذا قيمة علمية تمثل إضافة علمية جديدة قائمة علي البحث المبتكر في موضوع يقره مجلس القسم ولجنة الدراسات العليا و مجلس الكلية ومجلس الدراسات العليا بالجامعة على أن يقدم الطالب نتائج بحثه في رسالة تقبلها لجنة الحكم، و يقوم الطالب

بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر علي الأقل.

٥. يمنح الطالب درجة دكتوراه الفلسفة في العلوم ويذكر في الشهادة التخصص العام والدقيق وعنوان الرسالة.

٦. يرجع للائحة التنفيذية لقانون تنظيم الجامعات فيما لم يرد به نص في هذه اللائحة.

9- Methods and rules of evaluation of graduates enrolled in the program:

9.1. Theoretical courses:

Method of Assessment	Marks	learning outcomes assessed	Weighting
Midterm exam & Semester work	10	Measure knowledge, understanding (a.1-a.3), intellectual skills (b.1, b.5), professional (c.1) and general skills (d.1, d.3)	10%
Final Oral Exam	10	Measure knowledge, understanding (a.2,a.4), intellectual skills (b.3- b.5), and general skills (d.3, d.6-d.7) **لا يوجد مهارات مهنية**	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.7), intellectual skills (b.1-b8) **لا يوجد مهارات مهنية ولا عامة**	80%
Total	100		100%

9.2. Doctorate Thesis evaluation:

- The senior supervisor reports.
- Individual Reports of the Judge Committee
  (Three specialist professors including the senior supervisor).
- The Public Discussion
- The Common Report of the Judge Committee.
- Department, Faculty and University Boards.

• Assessment Recommendations:

-The Judge Committee has to recommend one of the following:

- Accepting the thesis as it is.
- Accept the thesis and recommends awarding after correction performing.
- Delaying awarding for maximum three months to perform corrections.
- Re-displaying the thesis to the judge committee within limited period.
- Rejecting the thesis at all.

10. Teaching and learning strategies used in the program:

10.1. Outcome based learning.
10.2. Brainstorming strategy.
10.3. Problem-solving strategy.
10.4. Cooperative learning strategy.

10.5. Independent Study strategy.

11. Evaluation of program:

Evaluator	Tool	Sample
1- Internal Evaluators	Reports	Reports 1-2
2- External Evaluators	Reports	Reports 1-2
3- Senior Students	Questionnaire	Questionnaire not less than 25%
4- Alumni	Questionnaire	Questionnaire not less than 25%
5- Stakeholders	Questionnaire, inter-view	Representative for all sectors

Head of the department: Prof. Dr. Faten Faried Abu Eldahb
Date: 2015 / 2016

Benha University
Faculty of Science
Department of Entomology

Medical Entomology Ph.D. Program Specification

Medical Entomology Ph.D. Program Specification

A. Basic Information

Program Title:	**Medical Entomology Ph.D.** Program
Program Type:	single
Department:	Entomology Departement
Coordinator:	Prof. Dr. Faten Faried Abu Eldahb
Assistant Co-ordinator:	Dr. Yasser A. El-Sayed
	Dr. Mohamed M. Baz

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

By the end of the Ph.D. in Medical Entomology program graduates must be able to:

1.1. Enhance the postgraduate knowledge and skills in entomological sciences and their related disciplines, applications and tools to the management/solution of the scientific problems related to insect Medicalimportance

1.2. Increase the ability and participation of the graduate in the development and imple mentation of entomological studies policies, strategies and planning as well as Collecting, summarizing, presenting data and undertaking professional and ethical responsibilities.

1.3. Broadcast the experience through effective interaction to enhance the performance of the profession and promote community development, keeping the ethics of scientific research.

2. Intended Learning Outcomes (ILO's)

2.1 Knowledge and Understanding

By the end of the Ph.D. in Medical Entomology graduates must be able to:

٢.١.1 Theories and bases of entomological sciences and the other related fields. .

٢.١.2 The mutual influence between the professional practices of entomological science and it is reflection in the environment.

٢.١.3 Scientific progress in the area of Medicalentomology.

٢.١.4 The methods applied for interpreting and analyzing biological information

٢.١.5 The recent experimental methodology in Medical entomology.

٢.١.6 The principles of quality in the professional practice in insect Medical importance

2.2 Intellectual Skills

By the end of the Ph.D. in Medical Entomology graduates must be able to:

2.2.1 Application of knowledge and understanding emphasis in solving problems.

2.2.2 Write a methodological scientific study on research problems.

2.2.3 Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.
2.2.4 Make decisions in various professional contexts.
2.2.5 Plan to develop performance in the area of entomological sciences.
2.2.6 Evaluate the risks in professional practices in the area of Medicalinsects.
2.2.7 Analyze and estimate knowledge in the area of Medicalentomology.
2.2.8 Read and understand scientific figures and writing.

2.3 Professional and Practical Skills

By the end of the Ph.D. in Medical Entomology graduates must be able to:

2.3.1 Apply perfectly the bases and modern professional skills in Medicalentomology.
2.3.2 Use instruments with accuracy in experimental data.
2.3.3 Write and evaluate professional report in entomological fields.
2.3.4 Approximate methods and tools in the area of entomological sciences
2.3.5 Prepare and develop annual management plans based on scientific observation.

2.4 General Skills

By the end of the Ph.D. in Medical Entomology graduates must be able to:

2.4.1 Communicate and exchange the information effectively through seminars and discussion meetings.
2.4.2 Life-long learning and self-development.
2.4.3 Present information and express ideas through writing essays and orally.
2.4.4 Work in team and comprehend and assume the interchangeable role of leaders and followers.
2.4.5 Possess good project management.
2.4.6 Use and search for information technology.

3- Academic standards of the program

The Academic Reference Standards (ARS) of this program is based upon the General Academic Standards of postgraduate programs published by the National Authority of Quality Assurance and Accreditation of Education in (2009). Specific Academic Reference Standards for Ph.D. in Entomology were approved by the Council of Faculty of Science, Benha University in --/--/2015 (**Appendices 1, 2, 3, 4, 5 and 6**).

4- Reference indices (Benchmarks)

Not utilized.

5- Program structure and contents

5.1. Program duration: 3-5 years.

5.2. Program structure:

to acquire Doctorate 's degree in science in Medical entomology Ph.D. Program, student should be performed the num- ber of 12 credit optional hours of study

of courses for the post-bachelor's in addition to the record number of 48 credit hours of scientific message during the study period.

Program structure	Credit hours
Optional courses	**12**
Research and preparing the Ph.D. thesis	**48**
Total	**60**

5.3. Program Courses:

- **Optional courses:**

Code No.	Course Title	No. of hours		
		Lectures	Practical	Credit hours
The graduate studies (12 hours)				
701E	Preparing and writing scientific thesis	2	-	2
702E	Advaced genetic engineer and molecu-lar biology	2	-	2
703E	Advanced social insects	2	-	2
704E	Insects in fornesic medicine	2	-	2
705 E	Household	2	-	2
706 E	Advanced medical entomology	2	-	2
707 E	Stored grain insects	2	-	2
708E	Selective topic	2	-	2
709E	Advanced Pest management	2	-	2
710E	Advanced insect growth regulator	2	-	2
711E	Beneficial insects	2	-	2
712E	Biological clocks	2	-	2
713E	Vegetables &Fruits	2	-	2
714E	Toxicology	2	-	2
715E	Advanced tissue culture	2	-	2
716E	Fine structure of insects	2	-	2
717E	Advanced taxonomy	2	-	2
718E	Insect histochemistry	2	-	2
719E	Species conservation and environment management	2	-	2

720 E	Aquatic Insects	2	-	2
721 E	Therapy by insects	2	-	2
48 credit hours for research and preparing the PhD thesis				
799 E	Doctoral thesis	-	-	48

6- Contents of the Courses

See course specification (**Appendix 7 and 8**)

7- Program admission requirements

١. يشترط لقيد الطالب لنيل درجة دكتوراه الفلسفة في العلوم أن يكون حاصلا على درجة ماجستير في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو أى درجة معادلة لها من معهد علمي أخر معترف به من المجلس الأعلى للجامعات.
٢. المدة اللازمة للحصول على درجة دكتوراه الفلسفة في العلوم ثلاث سنوات على الأقل منذ موافقة الجامعة علي التسجيل، وبحد أقصي خمس سنوات (المدة الأساسية) ويمكن مد التسجيل لمدة استثنائية لا تزيد عن ثلاث سنوات بناءا على التقارير العلمية المقدمة من لجنة الأشرف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات العليا والبحوث بالجامعة.
٣. يشترط لتسجيل الطالب لدرجة دكتوراه الفلسفة في العلوم اجتياز امتحان اتقان اللغة الانجليزية او ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أى شروط أضافية تراها الكلية والجامعة لازمة للقيد والتسجيل للدرجة.

8- Regulations for progression and program completion:

١. أن ينجز الطالب عدد ١٢ ساعة دراسية معتمدة من المقررات الدراسية لمرحلة ما بعد الماجستيرمتزامنة مع التسجيل للرسالة العلمية (تحسب ٤٨ ساعة معتمدة) ويخصص لكل ساعة معتمدة خمسون درجة.
٢. يقوم الطالب باجراء مناقشة علنية لخطة البحث (سيمينار) على أن يوافق عليها مجلس القسم تمهيدا لتسجيله للدرجة.
٣. تعقد امتحانات الدراسة الخاصة بالدكتوراه في نهاية كل فصل دراسي في المواعيد التي يقرها مجلس الكليةبناءً علي اقتراح مجالس الأقسام.
٤. يقوم الطالب باجراء بحث ذا قيمة علمية تمثل إضافة علمية جديدة قائمة علي البحث المبتكر في موضوع يقره مجلس القسم ولجنة الدراسات العليا و مجلس الكلية ومجلس الدراسات العليا بالجامعة على أن يقدم الطالب نتائج بحثه في رسالة تقبلها لجنة الحكم، و يقوم الطالب بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر علي الأقل.
٥. يمنح الطالب درجة دكتوراه الفلسفة في العلوم ويذكر في الشهادة التخصص العام والدقيق وعنوان الرسالة.
٦. يرجع للائحة التنفيذية لقانون تنظيم الجامعات فيما لم يرد به نص في هذه اللائحة.

9- Methods and rules of evaluation of graduates enrolled in the program:

9.1. Theoretical courses:

Method of Assessment	Marks	learning outcomes assessed	Weighting
Midterm exam & Semester work	10	Measure knowledge, understanding (a.1-a.3), intellectual skills (b.1, b.5), professional (c.1) and general skills (d.1, d.3)	10%
Final Oral Exam	10	Measure knowledge, understanding (a.2,a.4), intellectual skills (b.3- b.5), and general skills (d.3, d.6-d.7) لا يوجد مهارات مهنية	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.7), intellectual skills (b.1-b8) لا يوجد مهارات مهنية ولا عامة	80%
Total	100		100%

9.2. Doctorate Thesis evaluation:

- The senior supervisor reports.
- Individual Reports of the Judge Committee
  (Three specialist professors including the senior supervisor).
- The Public Discussion
- The Common Report of the Judge Committee.
- Department, Faculty and University Boards.

• Assessment Recommendations:

-The Judge Committee has to recommend one of the following:

- Accepting the thesis as it is.
- Accept the thesis and recommends awarding after correction performing.
- Delaying awarding for maximum three months to perform corrections.
- Re-displaying the thesis to the judge committee within limited period.
- Rejecting the thesis at all.

10. Teaching and learning strategies used in the program:

10.1. Outcome based learning.
10.2. Brainstorming strategy.
10.3. Problem-solving strategy.
10.4. Cooperative learning strategy.

10.5. Independent Study strategy.

11. Evaluation of program:

Evaluator	Tool	Sample
1- Internal Evaluators	Reports	Reports 1-2
2- External Evaluators	Reports	Reports 1-2
3- Senior Students	Questionnaire	Questionnaire not less than 25%
4- Alumni	Questionnaire	Questionnaire not less than 25%
5- Stakeholders	Questionnaire, inter-view	Representative for all sectors

Head of the department: Prof. Dr. Faten Faried Abu Eldahb
Date: 2015 / 2016