



Benha University
Faculty of Science
Department of Entomology



Insect Ecology M.Sc. Program Specification



Insect Ecology M.Sc. Program Specification

A. Basic Information

Program Title:	Insect Ecology M.Sc.. 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

This program is now reviewed by external evaluator and internal evaluator.

External evaluator: Prof. Dr. Ahmed Hassan Aboghalia.

Internal evaluator: Prof. Dr. Abd Elwahab Abd El Maksoud.

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

The overall aims of the programe are to provide the graduate with the following:

- Enhancing 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.
- 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.
- Broadcast the experiance 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.a Knowledge and Understanding

On successful completion of the programe, the graduate will be able to:

- 1 Mentions theories and bases of entomological sciences and the other related fields.
- 2 Understand The mutual influence between the professional practices of entomological science and it is reflection in the environment.
- 3 Indicate to scientific progress in the area of insect ecology.
- 4 Choose the methods applied for interpreting and analyzing biological information
- 5 Show the recent experimental methodology in insect ecology.
- 6 Indicate the principles of quality in the professional practice in insect ecology.

2.b Intellectual Skills

By the end of the programe, the graduate will be able to:

- 1 Undertake the Application of knowledge and understanding emphasis in solving problems.



- b.2 Apply a methodological scientific study on research problems.
- b.3 Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.
- b.4 Make decisions in various professional contexts.
- b.5 Plan to develop performance in the area of entomological sciences
- b.6 Evaluate the risks in professional practices in the area of insect ecology.
- b.7 Analyze and estimate knowledge in the area of insect ecology.
- b.8 Differentiate between read and understand a scientific figures and writing

2.c Professional and Practical Skills

By the end of the programe, the graduate will be able to:

- c.1 Apply perfectly the bases and modern professional skills in insect ecology.
- c.2 Use instruments with accuracy in experimental data.
- c.3 Write and evaluate professional report in entomological fields.
- c.4 Approximate methods and tools in the area of entomological sciences.
- c.5 Prepare and develop annual management plans based on scientific observation.

2.d General Skills

By the end of the programe, the graduate will be able to:

- d.1 Communicate and exchange the information effectively through seminars and discussion meetings.
- d.2 Apply the life-long learning and self-development
- d.3 Present an information and express ideas through writing essays and orally
- d.4 Work in team and comprehend and assume the interchangeable role of leaders and followers.
- d.5 Possess good project management.
- d.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 M.Sc 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

a. Program duration: 1-5 years

b. Program structure:

to acquire Master's degree in science in Insect Ecology M.Sc. Program, student should be performed the number of 24 credit hours of study (15 compulsory and 9 optional) of courses



for the post-bachelor's in addition to the record number of 24 credit hours of scientific message during the study period.

Program	Credit hours
Compulsory	15
Optional	9
Research and preparing the Msc thesis	24
Total	48

c. Program Courses:

c.1 Compulsory courses:

Code No.	Course Title	No. of Units	No. of hours/Week			Level
			Lect.	Eer.	Prac.	
601E	Ecology and pollution	2	2	-	-	
602E	New trends of insect control	2	2	-		
603 E	Genetic engineer and molecular biology	2	2	-		
604 E	New trends in taxonomy	2	2	-	-	
605E	Insect biotechnology	2	2		-	
606E	Selective topics	2	2		-	
607E	desiegn and write the thesis	2	2		-	
601 M	Biostatistics	1	1		-	
699 E	Msc thesis Compulsory			-		

c.2 Elective courses:

Code No.	Course Title	No. of Units	No. of hours/week			level
			Lect.	Exer.	Prac.	
626E	Fine structure of insects	1	1			
610E	Insect microbiology	2	2			
622E	Environmental systems and community	2	2			
612E	Insects and disease pathogens	2	2			
623E	Therotical and practical laws of taxonomy	2	2			
628E	Social insects	2	2			
615 E	Toxic, Metabolism and resistance of insecticides	2	2			



616E	Pest management	2	2			
617E	Radiation control of insects	2	2			
618E	Behavior and binomics of insects	2	2			
619E	Physiology and endocrinology of insects	2	2			
627E	Insect embryology and metamorphosis	2	2			

24 credit hours for research and preparing the Msc thesis

699E	master thesis	24				
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6- Contents of the Courses

See course specification (Appendix 8)

7- Program admission requirements:

1. يشترط لقياد الطالب لنيل لدرجة الماجستير في العلوم أن يكون حاصلًا على درجة البكالوريوس في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو من إحدى كليات العلوم بالجامعات المصرية أو أي درجة معادلة لها من معهد علمي آخر معترف به من المجلس الأعلى للجامعات والا يقل تقديره عن جيد في درجة البكالوريوس بالنسبة للتخصص المنفرد ويجوز قياد الطلاب الحاصلين على درجة بكالوريوس العلوم في التخصصات المزدوجة بتقدير عام جيد في درجة البكالوريوس.
2. يجوز قياد وتسجيل الطالب لدرجة الماجستير من بين الحاصلين على تقدير عام مقبول في درجة البكالوريوس بشرط حصوله على إحدى دبلومات التخصص بتقدير عام (جيد جدا)
3. لا يتم قبول الطلاب الذين مر على حصولهم على الدرجة الجامعية الأولى أكثر من خمس سنوات إلا في حالة حصولهم على أحد دبلومات التخصص ونفس الشروط الواردة باللائحة الداخلية لكلية
4. يشترط لتسجيل الطالب لدرجة الماجستير في العلوم اجتياز امتحان إتقان اللغة الإنجليزية أو ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أي شروط إضافية تراها الكلية والجامعة لازمة للقياد والتسجيل للدرجة.
5. المدة اللازمة على حصول درجة الماجستير سنة واحدة على الأقل منذ موافقة الجامعة على تسجيل موضوع البحث وبعد أقص خمس سنوات (المدة الأساسية) ويجوز مد التسجيل لمدة سنة على الا تزيد على ثلاث سنوات وبناء على التقارير العلمية المقدمة من لجنة الإشراف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات بالجامعة

8- Regulations for progression and program completion:

- يشترط في الطالب لنيل درجة الماجستير في العلوم
1. أن ينجز الطالب عدد ٢٤ ساعة دراسية معتمدة (١٥ اجباري و ٩ اختياري) من المقررات



الدراسية لمرحلة ما بعد البكالوريوس بالاضافة الى تسجيل عدد ٢٤ ساعة معتمدة للرسالة العلمية خلال فترة الدراسة.

٢. تعقد امتحانات الدراسة الخاصة بتمهيدى الماجستير فى نهاية كل فصل دراسى فى المواعيد التى يقرها مجلس الكلية بناء على اقتراح الدراسات العليا ويشترط لنجاح الطالب فى المقررات الدراسية ان يكون حاصلًا فى كل مققر على تقدير C على الاقل.

٣. يقوم الطالب بعد نجاحه فى المقررات الدراسية باجراء مناقشة علنية (سيمينار) للخطة البحثية المقترحة على ان يوافق عليها مجلس القسم، وبناء على ذلك يقوم الطالب باجراء بحث يقره مجلس الجامعة ويقدم الطالب نتائج بحثه فى رسالة تقبلها لجنة الحكم، وعلى ان يقوم الطالب بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر على الاقل.

٤. يجوز لمجلس القسم المختص بالموافقة على تغيير الشعبة التى يدرس بها الطالب ونجح فى امتحانها الى شعبة اخرى يرغب فى القيد او التسجيل بها بشرط استيفاء لشروط القيد والتسجيل بالشعبة الجديدة وعلى ان يقوم القسم بعمل مقاصة للمقررات التى درسها الطالب وتحميله بالمقررات اللازم استيفائها

9- Methods and rules of evaluation of students 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)	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.6), intellectual skills (b.1-b8)	80%
Total	100		100%

9.2 Master 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:

- Outcome based learning.
- Brainstorming strategy.
- Problem-solving strategy.
- Cooperative learning strategy.
- 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, interview	Representative for all sectors

The personal responsible for the program: Prof. Dr. Faten Faried Abu Eldahb

Signature: Prof. Dr. Faten Faried Abu Eldahb

Date: 2015/2016



Benha University
Faculty of Science
Department of Entomology



Insect Control M.Sc. Program Specification



Insect Control M.Sc. Program Specification

A. Basic Information

Program Title:	Insect Control M.Sc.. 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

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Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

The overall aims of the programe are to provide the graduate with the following:

- a. Enhancing 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 control
- b. 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.
- c. 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.a Knowledge and Understanding

On successful completion of the programe, the graduate will be able to:

- a.1 Mentions theories and bases of entomological sciences and the other related fields.
- a.2 Understand the mutual influence between the professional practices of entomological science and it is reflection in the environment
- a.3 Indicate to scientific progress in the area of insect control.
- a.4 Show the recent experimental methodology in insect control.
- a.5 Indicate the principles of quality in the professional practice in insect control.

2.b Intellectual Skills

By the end of the programe, the graduate will be able to:



- b.1 Undertake the Application of knowledge and understanding emphasis in solving problem
- b.2 Apply a methodological scientific study on research problems.
- b.3 Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.
- b.4 Analyze and estimate knowledge in the area of insect control.

2.c Professional and Practical Skills

By the end of the programe, the graduate will be able to:

- c.1 Apply perfectly the bases and modern professional skills in pest control.
- c.2 Write and evaluate professional report in entomological fields.
- c.3 Approximate methods and tools in the area of insect control.
- c.4 Prepare and develop annual management plans based on scientific observation.

2.d General Skills

By the end of the programe, the graduate will be able to:

- d.1 Communicate and exchange the information effectively through seminars and discussion meetings.
- d.2 Apply Life-long learning and self development.
- d.3 Present an 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 **M.Sc** 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

a. Program duration: 1-5 years

b. Program structure:

to acquire Master's degree in science in Insect **Control** M.Sc. Program, student should be performed the number of 24 credit hours of study (15 compulsory and 9 optional) of courses for the post-bachelor's in addition to the record number of 24 credit hours of scientific message during the study period.

Program	Credit hours
Compulsory	15



Optional	9
Research and preparing the Msc thesis	24
Total	48

c. Program Courses:

c.1 Compulsory courses:

Code No.	Course Title	No. of Units	No. of hours/Week			Level
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604 E	New trends in taxonomy	2	2	-	-	
605E	Insect biotechnology	2	2		-	
606E	Selective topics	2	2		-	
607E	desiagn and write the thesis	2	2		-	
601 M	Biostatistics	1	1		-	
699 E	Msc thesis Compulosry			-		

c.2 Elective courses:

Code No.	Course Title	No. of Units	No. of hours/week			level
			Lect.	Exer.	Prac.	
626E	Fine structure of insects	1	1			
610E	Insect microbiology	2	2			
622E	Environmental systems and community	2	2			
612E	Insects and disease pathogens	2	2			
623E	Therotical and practical laws of taxonomy	2	2			
628E	Social insects	2	2			
615 E	Toxic, Metabolism and resistance of insecticides	2	2			
616E	Pest management	2	2			
617E	Radiation control of insects	2	2			
618E	Behavior and binomics of insects	2	2			
619E	Physiology and endocrinology of insects	2	2			
627E	Insect embryology and	2	2			



metamorphosis						
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24 credit hours for research and preparing the Msc thesis

699E	master thesis	24				
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6- Contents of the Courses

See course specification (Appendix 8)

7- Program admission requirements:

1. يشترط لقيد الطالب لنيل لدرجة الماجستير في العلوم أن يكون حاصلا على درجة البكالوريوس في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو من احدى كليات العلوم بالجامعات المصرية او أى درجة معادلة لها من معهد علمي آخر معترف به من المجلس الأعلى للجامعات والا يقل تقديره عن جيد فى درجة البكالوريوس بالنسبة للتخصص المنفرد ويجوز قيد الطلاب الحاصلين على درجة بكالوريوس العلوم فى التخصصات المزدوجة بتقدير عام جيد فى درجة البكالوريوس.
2. يجوز قيد وتسجيل الطالب لدرجة الماجستير من بين الحاصلين على تقدير عام مقبول فى درجة البكالوريوس بشرط حصوله على احدى دبلومات التخصص بتقدير عام (جيد جدا)
3. لا يتم قبول الطلاب الذين مر على حصولهم على الدرجة الجامعية الاولى اكثر من خمس سنوات الا فى حالة حصولهم على احد دبلومات التخصص ونفس الشروط الواردة باللائحة الداخلية للكلية
4. يشترط لتسجيل الطالب لدرجة الماجستير في العلوم اجتياز امتحان اتقان اللغة الانجليزية او ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أى شروط إضافية تراها الكلية والجامعة لازمة للقيد والتسجيل للدرجة.
5. المدة الازمة على حصول درجة الماجستير سنة واحدة على الاقل منذ موافقة الجامعة على تسجيل موضوع البحث وبحد اقصى خمس سنوات (المدة الاساسية) ويجوز مد التسجيل لمدة سنة على الا تزيد على ثلاث سنوات وبناء على التقارير العلمية المقدمة من لجنة الاشراف وموافقة مجلس القسم العلمى المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات بالجامعة

8- Regulations for progression and program completion:

- يشترط في الطالب لنيل درجة الماجستير في العلوم
1. أن ينجز الطالب عدد ٢٤ ساعة دراسية معتمدة (١٥ اجبارى و ٩ اختياري) من المقررات الدراسية لمرحلة ما بعد البكالوريوس بالاضافة الى تسجيل عدد ٢٤ ساعة معتمدة للرسالة العلمية خلال فترة الدراسة.
 2. تعقد امتحانات الدراسة الخاصة بتمهيدى الماجستير فى نهاية كل فصل دراسى فى المواعيد التى يقرها مجلس الكلية بناء على اقتراح الدراسات العليا ويشترط لنجاح الطالب فى المقررات الدراسية ان يكون حاصلا فى كل مققر على تقدير C على الاقل.
 3. يقوم الطالب بعد نجاحه فى المقررات 5 الدراسية باجراء مناقشة علنية (سمينار)



للخطة البحثية المقترحة على ان يوافق عليها مجلس القسم، وبناء عليه يقوم الطالب باجراء بحث يقره مجلس الجامعة ويقدم الطالب نتائج بحثه في رسالة تقبلها لجنة الحكم، وعلى ان يقوم الطالب بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر على الاقل.

٤. يجوز لمجلس القسم المختص بالموافقة على تغيير الشعبة التي يدرس بها الطالب ونجح في امتحانها الى شعبة اخرى يرغب في القيد او التسجيل بها بشرط استيفاء لشروط القيد والتسجيل بالشعبة الجديدة وعلى ان يقوم القسم بعمل مقاصة للمقررات التي درسها الطالب وتحميله بالمقررات اللازم استيفائها

9- Methods and rules of evaluation of students 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.4), 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.4), and general skills (d.3)	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5), intellectual skills (b.1-b4)	80%
Total	100		100%

9.2 Master 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:



- a. Outcome based learning.
- b. Brainstorming strategy.
- c. Problem-solving strategy.
- d. Cooperative learning strategy.
- e. 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, interview	Representative for all sectors

The personal responsible for the program: Prof. Dr. Faten Faried Abu Eldahb

Signature: Prof. Dr. Faten Faried Abu Eldahb

Date: 2015/2016



Medical and veterinary Entomology M.Sc. Program report

A- Basic Information

- 1-Program title: Medical and veterinary Entomology M.Sc.. Program
- 2-Program type: single
- 3-Department offering the program: Entomology Department.
- 4-Co-ordinator: Prof. Dr. Faten Faried Abu Eldahb
- 5-Year of operation: 2014 - 2015

This program is now reviewed by external evaluator and internal evaluator.

External evaluator: Prof. Dr. Ahmed Hassan Aboghalia.

Internal evaluator: Prof. Dr. Abd Elwahab Abd El Maksoud.

B- Statistic

- 1-No. of students starting the program: 3
- 2-Ratio of students attending the program this year to those of last year
- 3-No. and percentage of students passing in each year/level/semester

Year		Number of students	No of Passing Students	Ratio %
First	2014 - 2015	3	3	100%
Second	2014 - 2015	3	3	100%

- 4-No. of students completing the program and as a percentage of those who started

	Number	Percentage
students joining the program on Sept 20 :		
students completing the program on May 20 :	3	100%
students completing the program on Nov 20 :		
Total Number of students completing the program on 20 :		

- 5-Grading: No. and percentage in each grade

	Excellent	Very Good	Good	Sufficient
Number		2	1	
Percentage %		66.6%	33.3%	

6-First destinations of graduates

i. Proceeded to appropriate employment %	
ii Proceeded to other employment %	
iii Undertaken postgraduate study %	
iv. Engaged in other types of activity %	
v. Unknown first destination %	

C-Academic Standards:

1. For Intended learning outcomes of course (ILOs): See (Appendix 6)

Knowledge and Understanding	Intellectual skills	Practical and professional skills	General skills
a1 to a8	b1 to b8	c1 to C7	d1 to d7

2. Achievement of program aims: **Achievement**

3. Assessment methods: **Semester work, mid-term Exam, oral exam and final term Exam**

4. Student achievement:

5. Quality of teaching and learning:

6. Effectiveness of student support systems:

7. Learning resources

a. No. and ratio of faculty members and their assistants to students: **Adequate**

b. Matching of faculty members' specialization to program needs: **Adequate**

c. Availability and adequacy of program handbook: **Adequate**

d. Adequacy of library facilities: **Adequate**

e. Adequacy of laboratories: **Adequate**

f. Adequacy of computer facilities: **Adequate**

g. Adequacy of field/practical training resources: **Adequate**

h. Adequacy of any other program needs: **Adequate**

8. Course enhancement:

Progress on actions identified in the previous year's action plan:

Actions required	Person responsible	Progress of action
Deficiency of computer and Programs. Limited days of field training due to shortage of funding from the university. Purchasing more specific references and tools.	Head of the department and all course instructors	The course note is updated and the instructor helped in developing the practical course experiments

9- Action plan for academic year 2015 – 2016

Actions required	Person responsible	Completion date
Update Computer and design new program required to solve the problem	Head of the department and	By the beginning of the second semester of the

under studies	all course instructors	academic year 2015-2016
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Program Coordinator:
Signature:

Appendix

Courses Reports



Benha University
Faculty of Science
Department of Entomology



Insect Physiology M.Sc. Program Specification



Insect Physiology Entomology M.Sc. Program Specification

A. Basic Information

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

This program is now reviewed by external evaluator and internal evaluator.

External evaluator: Prof. Dr. Ahmed Hassan Aboghalia.

Internal evaluator: Prof. Dr. Abd Elwahab Abd El Maksoud.

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

The overall aims of the programme are to provide the graduate with the following:

- Understanding and mastery concepts, principles and applications of Physiology.
- Commitment to continuing self learning with work on the addendum to the knowledge in Physiology and transfer of knowledge and expertise to others.
- Application of the analytical method and critic of knowledge in Physiology and related areas.
- Use Physiological knowledge combined with related knowledge to find innovative solutions for professional problems.
- Mastery of a wide range of professional skills in Physiology and development of methods and tools, and new techniques in professional practice.
- Communication effectively, leading teams and making decisions in light of available information
- Showing awareness of his/her role in community development and preservation of the environment
- Proceedings 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.a Knowledge and Understanding

On successful completion of the programme, the graduate will be able to:

- 1 Mentions theories and fundamentals and modern knowledge in Physiology and



- related sciences in Entomology.
- a.2 Understand the basics and ethics of the scientific research in Physiology.
 - a.3 Understand Legal and ethical principles for professional practice in Physiology
 - a.4 Indicate the principles and fundamentals of quality in professional practice in Physiology.
 - a.5 Show the recent experimental methodology in insect physiology.

2.b Intellectual Skills

By the end of the programe, the graduate will be able to:

- b.1 Analyze and evaluate the information in Physiology and related sciences in Entomology.
- b.2 Interpret and correlate data for solve problems in Physiology and related sciences in Entomology.
- b.3 Develop research study which contributes to add the knowledge in Physiology and related sciences in Entomology.
- b.4 Formulate scientific research in Physiology.
- b.5 Evaluate risks during the professional practice in Physiology.
- b.6 Planning and innovation for the development of performance in Physiology.
- b.7 Make professional decisions in professional practices in Physiology.
- b.8 Discussion based on evidences and conclusions in Physiology and related .sciences in Entomology

2.c Professional and Practical Skills

By the end of the programe, the graduate will be able to:

- c.1 Mastery of basic, professional and modern skills Physiology.
- c.2 Writing and evaluation of professional reports in Physiology and related sciences in Entomology.
- c.3 Label different methodology and techniques in Physiology and related sciences in Entomology.
- c.4 Use technological means to serve the professional practice in Physiology.
- c.5 Planning for the development of professional practice and development of the performance of others.

2.d General Skills

By the end of the programe, the graduate will be able to:

- d.1 Communicate effectively by using different methods
- d.2 Use of information technology to development of professional practice and to obtain information and knowledge.
- d.3 Teach others and evaluate their performance during laboratory works
- d.4 Self-evaluation and continuous learning
- d.5 Work in a team and lead working groups
- d.6 Management of scientific meetings and the ability to manage time



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 **M.Sc** 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

a. **Program duration:** 1-5 years

b. **Program structure:**

to acquire Master's degree in science in **Insect Physiology Entomology M.Sc.** Program, student should be performed the number of 24 credit hours of study (15 compulsory and 9 optional) of courses for the post-bachelor's in addition to the record number of 24 credit hours of scientific message during the study period.

Program	Credit hours
Compulsory	15
Optional	9
Research and preparing the Msc thesis	24
Total	48

c. Program Courses:

c.1 Compulsory courses:

Code No.	Course Title	No. of Units	No. of hours/Week			Level
			Lect.	Eer.	Prac.	
601E	Ecology and pollution	2	2	-	-	
602E	New trends of insect control	2	2	-	-	
603 E	Genetic engineer and molecular biology	2	2	-	-	
604 E	New trends in taxonomy	2	2	-	-	
605E	Insect biotechnology	2	2	-	-	
606E	Selective topics	2	2	-	-	
607E	desiegn and write the thesis	2	2	-	-	
601 M	Biostatistics	1	1	-	-	
699 E	Msc thesis Compulosry			-	-	



c.2 Elective courses:

Code No.	Course Title	No. of Units	No. of hours/week			level
			Lect.	Exer.	Prac.	
626E	Fine structure of insects	1	1			
610E	Insect microbiology	2	2			
622E	Environmental systems and community	2	2			
612E	Insects and disease pathogens	2	2			
623E	Theoretical and practical laws of taxonomy	2	2			
628E	Social insects	2	2			
615 E	Toxic, Metabolism and resistance of insecticides	2	2			
616E	Pest management	2	2			
617E	Radiation control of insects	2	2			
618E	Behavior and binomics of insects	2	2			
619E	Physiology and endocrinology of insects	2	2			
627E	Insect embryology and metamorphosis	2	2			

24 credit hours for research and preparing the Msc thesis

699E	master thesis	24				
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6- Contents of the Courses

See course specification (Appendix 8)

7- Program admission requirements:

1. يشترط لقبول الطالب لنيل درجة الماجستير في العلوم أن يكون حاصلًا على درجة البكالوريوس في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو من إحدى كليات العلوم بالجامعات المصرية أو أي درجة معادلة لها من معهد علمي آخر معترف به من المجلس الأعلى للجامعات ولا يقل تقديره عن جيد في درجة البكالوريوس بالنسبة للتخصص المنفرد ويجوز قيد الطلاب الحاصلين على درجة بكالوريوس العلوم في التخصصات المزدوجة بتقدير عام جيد في درجة البكالوريوس.
2. يجوز قيد وتسجيل الطالب لدرجة الماجستير من بين الحاصلين على تقدير عام مقبول في درجة البكالوريوس بشرط حصوله على إحدى دبلومات التخصص بتقدير عام (جيد جدًا).
3. لا يتم قبول الطلاب الذين مر على حصولهم على الدرجة الجامعية الأولى أكثر من خمس سنوات إلا في حالة حصولهم على أحد دبلومات التخصص ونفس الشروط الواردة بالأئحة الداخلية للكلية.

٤. يشترط لتسجيل الطالب لدرجة الماجستير في العلوم اجتياز امتحان اتقان اللغة الانجليزية او ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أى شروط إضافية تراها الكلية والجامعة لازمة للقيود والتسجيل للدرجة.
٥. المدة الازمة على حصول درجة الماجستير سنة واحدة على الاقل منذ موافقة الجامعة على تسجيل موضوع البحث وبعده اقص خمس سنوات (المدة الاساسية) ويجوز مد التسجيل لمدة سنة على الا تزيد على ثلاث سنوات وبناء على التقارير العلمية المقدمة من لجنة الاشراف وموافقة مجلس القسم العلمى المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات بالجامعة

8- Regulations for progression and program completion:

يشترط في الطالب لنيل درجة الماجستير في العلوم

١. أن ينجز الطالب عدد ٢٤ ساعة دراسية معتمدة (١٥ اجبارى و ٩ اختياري) من المقررات الدراسية لمرحلة ما بعد البكالوريوس بالإضافة الى تسجيل عدد ٢٤ ساعة معتمدة للرسالة العلمية خلال فترة الدراسة.
٢. تعقد امتحانات الدراسة الخاصة بتمهيدى الماجستير فى نهاية كل فصل دراسى فى المواعيد التى يقرها مجلس الكلية بناء على اقتراح الدراسات العليا ويشترط لنجاح الطالب فى المقررات الدراسية ان يكون حاصلًا فى كل مقر على تقدير C على الاقل.
٣. يقوم الطالب بعد نجاحه فى المقررات الدراسية باجراء مناقشة علنية (سيمينار) للخطة البحثية المقترحة على ان يوافق عليها مجلس القسم، وبناء عليه يقوم الطالب باجراء بحث يقره مجلس الجامعة ويقدم الطالب نتائج بحثه فى رسالة تقبلها لجنة الحكم، وعلى ان يقوم الطالب بعمل سيمينار قبل التقدم بالرسالة بثلاثة اشهر على الاقل.
٤. يجوز لمجلس القسم المختص بالموافقة على تغيير الشعبة التى يدرس بها الطالب ونجح فى امتحانها الى شعبة اخرى يرغب فى القيد او التسجيل بها بشرط استيفاء لشروط القيد والتسجيل بالشعبة الجديدة وعلى ان يقوم القسم بعمل مقاصة للمقررات التى درسها الطالب وتحمله بالمقررات اللازم استيفائها

9- Methods and rules of evaluation of students 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)	10 %



Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5), intellectual skills (b.1-b8)	80%
Total	100		100%

9.2 Master 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:

- a. Outcome based learning.
- b. Brainstorming strategy.
- c. Problem-solving strategy.
- d. Cooperative learning strategy.
- e. 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, interview	Representative for all sectors

The personal responsible for the program: Prof. Dr. Faten Faried Abu Eldahb

Signature: Prof. Dr. Faten Faried Abu Eldahb

Date: 2015/2016



**Benha University
Faculty of Science
Department of Entomology**



Insect Taxonomy MSc. Program Specification



Insect Taxonomy MSc. Program Specification

A. Basic Information

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

This program is now reviewed by external evaluator and internal evaluator.

External evaluator: Prof. Dr. Ahmed Hassan Aboghalia.

Internal evaluator: Prof. Dr. Abd Elwahab Abd El Maksoud.

Dates of program specifications approval: 9/12/2015

B. Professional Information

1. Program general aims

The overall aims of the programme are to provide the graduate with the following:

- Development 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 insects Taxonomy.
- Demonstration and the proficiency in applications of basics and methodologies of scientific re-search.
- Development the performance of the profession and promote community development, keeping the ethics of scientific research.
- Application of the analytical method and critic of knowledge in entomology and related areas.
- Working effectively in a team and possessing the management and communication skills.
- Make decisions in light of available information.

2. Intended Learning Outcomes (ILO's)

2.a Knowledge and Understanding

On successful completion of the programme, the graduate will be able to:

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



2.b Intellectual Skills

By the end of the programme, the graduate will be able to:

- b.1 Evaluate risks during the professional practice in the field of entomology.
- b.2 Apply a methodological scientific study on research problems.
- b.3 Plan and conduct a research task to solve problem.
- b.4 Analyze and estimate knowledge in the area of insect taxonomy.
- b.5 Make professional decisions in professional practices in the field of entomology.
- b.6 Examine critically scientific evidence, both quantitative and qualitative, in order to arrive at evidence-based conclusions.
- b.7 Analyze and estimate knowledge in the area of insect taxonomy.

2.c Professional and Practical Skills

By the end of the programme, the graduate will be able to:

- c.1 Apply perfectly the bases and modern professional skills in insect taxonomy.
- c.2 Write and evaluate professional report in entomological fields.
- c.3 Make professional decisions in professional practices in the field of insect taxonomy.
- c.4 Prepare and develop annual management plans based on scientific observation.
- c.5 Use approximate methods and tools in the area of insects taxonomy.

2.d General Skills

By the end of the programme, the graduate will be able to:

- d.1 Communicate and exchange the information effectively through seminars and discussion meetings.
- d.2 Apply the life-long learning and self-development
- d.3 Work in team and comprehend and assume the interchangeable role of leaders and followers.
- d.4 Search and get information from different resources .
- d.5 Possess good project management.
- d.6 Develop lines of argument and appropriate judgment in accordance with scientific 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 **M.Sc** 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

a. Program duration: 1-5 years

b. Program structure:

to acquire Master's degree in science in Insect Taxonomy M.Sc. Program, student should be performed the number of 24 credit hours of study (15 compulsory and 9 optional) of courses for the post-bachelor's in addition to the record number of 24 credit hours of scientific message during the study period.

Program	Credit hours
Compulsory	15
Optional	9
Research and preparing the Msc thesis	24
Total	48

c. Program Courses:

c.1 Compulsory courses:

Code No.	Course Title	No. of Units	No. of hours/Week			Level
			Lect.	Eer.	Prac.	
601E	Ecology and pollution	2	2	-	-	
602E	New trends of insect control	2	2	-	-	
603 E	Genetic engineer and molecular biology	2	2	-	-	
604 E	New trends in taxonomy	2	2	-	-	
605E	Insect biotechnology	2	2	-	-	
606E	Selective topics	2	2	-	-	
607E	desiegn and write the thesis	2	2	-	-	
601 M	Biostatistics	1	1	-	-	
699 E	Msc thesis Compulosry			-	-	

c.2 Elective courses:

Code No.	Course Title	No. of Units	No. of hours/week			level
			Lect.	Exer.	Prac.	
626E	Fine structure of insects	1	1			
610E	Insect microbiology	2	2			
622E	Environmental systems and community	2	2			
612E	Insects and disease pathogens	2	2			
623E	Therotical and practical laws of	2	2			



	taxonomy					
628E	Social insects	2	2			
615 E	Toxic, Metabolism and resistance of insecticides	2	2			
616E	Pest management	2	2			
617E	Radiation control of insects	2	2			
618E	Behavior and binomics of insects	2	2			
619E	Physiology and endocrinology of insects	2	2			
627E	Insect embryology and metamorphosis	2	2			

24 credit hours for research and preparing the Msc thesis

699E	master thesis	24				
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6- Contents of the Courses

See course specification (Appendix 8)

7- Program admission requirements:

1. يشترط لقياد الطالب لنيل لدرجة الماجستير في العلوم أن يكون حاصلًا على درجة البكالوريوس في العلوم في نفس التخصص من كلية العلوم جامعة بنها أو من إحدى كليات العلوم بالجامعات المصرية أو أي درجة معادلة لها من معهد علمي آخر معترف به من المجلس الأعلى للجامعات والا يقل تقديره عن جيد في درجة البكالوريوس بالنسبة للتخصص المنفرد ويجوز قياد الطلاب الحاصلين على درجة بكالوريوس العلوم في التخصصات المزدوجة بتقدير عام جيد في درجة البكالوريوس.
2. يجوز قياد وتسجيل الطالب لدرجة الماجستير من بين الحاصلين على تقدير عام مقبول في درجة البكالوريوس بشرط حصوله على إحدى دبلومات التخصص بتقدير عام (جيد جدا)
3. لا يتم قبول الطلاب الذين مر على حصولهم على الدرجة الجامعية الأولى أكثر من خمس سنوات إلا في حالة حصولهم على أحد دبلومات التخصص ونفس الشروط الواردة باللائحة الداخلية لكلية
4. يشترط لتسجيل الطالب لدرجة الماجستير في العلوم اجتياز امتحان إتقان اللغة الإنجليزية أو ما يعادلها بمستوى يحدده مجلس الجامعة وكذلك استيفاء أي شروط إضافية تراها الكلية والجامعة لازمة للقياد والتسجيل للدرجة.
5. المدة اللازمة على حصول درجة الماجستير سنة واحدة على الأقل منذ موافقة الجامعة على تسجيل موضوع البحث ويحد أقصى خمس سنوات (المدة الأساسية) ويجوز مد التسجيل لمدة سنة على الا تزيد على ثلاث سنوات وبناء على التقارير العلمية المقدمة من لجنة الإشراف وموافقة مجلس القسم العلمي المختص ولجنة الدراسات العليا والبحوث ومجلس الكلية ومجلس الدراسات بالجامعة

8- Regulations for progression and program completion:



يشترط في الطالب لنيل درجة الماجستير في العلوم

١. أن ينجز الطالب عدد ٢٤ ساعة دراسية معتمدة (١٥ اجباري و ٩ اختياري) من المقررات الدراسية لمرحلة ما بعد البكالوريوس بالإضافة الى تسجيل عدد ٢٤ ساعة معتمدة للرسالة العلمية خلال فترة الدراسة.

٢. تعقد امتحانات الدراسة الخاصة بتمهيدى الماجستير في نهاية كل فصل دراسي في المواعيد التي يقرها مجلس الكلية بناء على اقتراح الدراسات العليا ويشترط لنجاح الطالب في المقررات الدراسية ان يكون حاصلًا في كل مقدر على تقدير C على الاقل.

٣. يقوم الطالب بعد نجاحه في المقررات الدراسية باجراء مناقشة علنية (سمينار) للخطة البحثية المقترحة على ان يوافق عليها مجلس القسم، وبناء عليه يقوم الطالب باجراء بحث يقره مجلس الجامعة ويقدم الطالب نتائج بحثه في رسالة تقبلها لجنة الحكم، وعلى ان يقوم الطالب بعمل سمينار قبل التقدم بالرسالة بثلاثة اشهر على الاقل.

٤. يجوز لمجلس القسم المختص بالموافقة على تغيير الشعبة التي يدرس بها الطالب ونجح في امتحانها الى شعبة اخرى يرغب في القيد او التسجيل بها بشرط استيفاء لشروط القيد والتسجيل بالشعبة الجديدة وعلى ان يقوم القسم بعمل مقاصة للمقررات التي درسها الطالب وتحميله بالمقررات اللازم استيفائها

9- Methods and rules of evaluation of students 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)	10 %
Final Term Examination	80	Measure knowledge, understanding (a.1-a.3, a.5,a.6), intellectual skills (b.1-b7)	80%
Total	100		100%

9.2 Master 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:

- a. Outcome based learning.
- b. Brainstorming strategy.
- c. Problem-solving strategy.
- d. Cooperative learning strategy.
- e. 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, interview	Representative for all sectors

The personal responsible for the program: Prof. Dr. Faten Faried Abu Eldahb

Signature: Prof. Dr. Faten Faried Abu Eldahb

Date: 2015/2016