Syllabus – General Entomology AL/BI 345 & AL/BI 345L – Fall Semester 2025

Course Information

Lecture

- Days & Time: Tuesday & Thursday, 12:30–1:50 PM
- Room: SC 110

Laboratory

- Day & Time: Tuesday, 2:00–4:50 PM
- Room: SC 110

Instructor Information

Instructor: Dr. Alfred Daniel Johnson

- Office: ALS 105 J
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- Cell: (671) 682-4672
- Office Hours: Wednesdays, 8:00 AM – 2:00 PM

Course Description (from UOG Catalog)

AL-BI–345 General Entomology (3 credits, Fall only/odd years)

This course provides an overview of insect biology with emphasis on fundamental problems encountered by insects, and the structural and functional adaptations they use to overcome these problems. The laboratory emphasizes insect identification. The course meets for three hours of lecture weekly. *Concurrent enrollment in AL/BI 345L is required.*
Prerequisites: BI157/L, AL109/L, or AL281/L.

Al-BI–345L General Entomology Laboratory (1 credit, Fall only/odd years)

This course must be taken concurrently with AL/BI 345. The laboratory focuses on insect identification and requires an insect collection. The course meets for three hours of laboratory weekly.

Prerequisites: BI157/L, AL109/L, or AL281/L.

Course Schedule – Fall 2025

Lecture: 12:30–1:50 PM **Lab:** 2:00–4:50 PM

Week	Date	Lecture	Lab
1	21 Aug (Thu)	Course Introduction / Syllabus / *Why Study Insects?*	—
2	26 Aug (Tue)	Insect Classification I	Arthropod Collection & Preservation (on-campus)
3	28 Aug (Thu)	Overview of Spiders	—
4	2 Sept (Tue)	Insect Population Decline *(Quiz 1)*	Field Trip: Yigo
5	4 Sept (Thu)	Insect Morphology	—
6	9 Sept (Tue)	Insect Physiology *(Quiz 2)*	Field Trip: Ija
7	11 Sept (Thu)	Immature Stages of Insects	—
8	16 Sept (Tue)	Insect Defense Mechanisms *(Quiz 3)*	Field Trip: Inarajan
9	18 Sept (Thu)	Insect Behavior	—
10	23 Sept (Tue)	Insect Ecology *(Quiz 4)*	Night Collection with Light Traps (place yet to be determined)
11	25 Sept (Thu)	Insect Interactions	—
12	30 Sept (Tue)	Midterm Exam	Working on Collections: Pinning/Card mounting (**Project title due**)
13	2 Oct (Thu)	Insect Classification II	—
14	7 Oct (Tue)	Non-Insect Hexapods, Apterygota, Paleoptera, Polyneoptera & Paraneoptera *(Quiz 5)*	Identification of Primitive Orders & Hemiptera using keys
15	9 Oct (Thu)	Insect Evolution	—
16	21 Oct (Tue)	Non-Major Holometabola *(Quiz 6)*	Identifying Spiders using keys Curating- CNAS Insect-Collections

Week	Date	Lecture	Lab
17	23 Oct (Thu)	Beneficial Insects	—
18	28 Oct (Tue)	Lepidoptera *(Quiz 7)*	Identification of Lepidoptera Families using keys
19	30 Oct (Thu)	Guest Lecture: Ants-an overview	—
20	4 Nov (Tue)	Guest Lecture: Apiculture	Apiculture
21	6 Nov (Thu)	Insect – Virus interaction	—
22	13 Nov (Thu)	Insect Pests of Guam	—
23	18 Nov (Tue)	Coleoptera *(Quiz 8)*	Identification of Coleoptera Families using keys
24	20 Nov (Thu)	Chemical Ecology	—
25	25 Nov (Tue)	Diptera *(Quiz 9)*	Identification of Diptera Families
26	2 Dec (Tue)	Hymenoptera	Identification of Hymenoptera Families using keys
27	4 Dec (Thu)	Integrated Pest Management & Pesticides *(Quiz 10)*	—
28	9 Dec (Tue)	Project Presentations I	Final Practical Exam (**Record & Insect Box due**)
29	12 Dec (Thu)	Project Presentations II	—
30	16 Dec (Tue)	Final Theory Exam (12:00- 13:50)	—

Grading Scheme

Lecture (AL/BI 345) – 100 marks

- 10 Quizzes (10 × 10 marks, averaged) → 10
- Midterm Exam → 25
- Project Presentation → 15
- Final Theory Exam → 50

Laboratory (AL/BI 345L) – 100 marks

- Record/Manual → 15 (timeliness, neatness, diagrams)
- Insect Box → 40 (1 mark per properly preserved, labeled, and identified specimen)
- Insect Rearing → 15 (5 different species of moths/butterflies; 3 marks each; must show larva, pupa, and adult during lab)
- Final Practical Exam → 30 (15 insect identifications)

Grading Scale

Grade	Marks
A	90–100
A–	87–89
B+	83–86
B	80–82
B–	77–79
C+	73–76
C	70–72
C–	67–69
D+	63–66
D	60–62
F	Below 60

Notes

- No marks will be awarded for:
    - Lepidoptera not properly spread, or small insects not correctly mounted on paper points.
    - Specimens lacking observation records in iNaturalist.
    - Duplicate specimens of the same species.
- Field equipment for insect collection will be distributed on the first day and must be returned in good condition at the end of the semester.
- Students must sign liability forms for field trips.
- Labs will be conducted either in SC 110 or in the field.

Student Learning Outcomes

By the end of AL/BI 345 & AL/BI 345L, students will be able to:

1. Identify insects of Guam to the Order level, most to Family, and some to species.
2. Describe the biology and behavior of common insects of Guam.
3. Collect, preserve, and curate museum-quality insect specimens with proper labeling.
4. Explain the ecological importance of insects in ecosystem function.
5. Discuss the negative impacts of invasive insect species on Guam's ecosystems and economy.

Research Project

- Research projects will be conducted individually.
- Project titles must be submitted by **30 September**.
- Presentations will be delivered on **9 December** and **12 December**.

Textbooks

- Gullan, P. J., & Cranston, P. S. (2014) *The Insects: An Outline of Entomology*.Wiley
- Johnson, N. F., & Triplehorn, C. A. (2004). *Borror and DeLong's Introduction to the Study of Insects* (7th ed.) Thomson- Brooks/Cole.

Resources to Explore

- Entomological Society of America (ESA) – Baltimore, USA
- Entomological Collections Network (ECN) – Baltimore, USA
- Micronesica Journal
- Asia-Pacific Entomology (Journal of Asia-Pacific Entomology)
- Bishop Museum (Hawaii, USA)