Insect Biotechnology Laboratory
ENTO 429-Fall 2013

Course Description and Learning Outcome:

This course will provide basic technical experience in insect molecular biology and biotechnology. Students will have hands-on practice in DNA and protein techniques such as DNA extraction, PCR, gel electrophoresis, protein quantification, protein gel, etc.

The students should demonstrate successful use of DNA and protein techniques learned in this course. They should be able to analyze the experimental results. Outcome of student learning will be assessed partly by quizzes, notebook notes and one lab report where students discuss their laboratory findings.

Time and Place: R 12:45 pm – 3:35 pm; Heep 207

Instructor: Keyan Zhu-Salzman
Norman Borlaug Center 127
458-3357
ksalzman@tamu.edu

Office Hours: Friday 3:00 – 5:00 p.m.

Teaching Assistant: Diana Castillo
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Biological Control 119
Phone: 7654136476

Grading:

To assess student class performance there will be seven quizzes throughout the semester. The initial quiz will not be worth any points this only to determine the level of molecular biology knowledge of the students. After that, there will be five quizzes worth one point each and the TA will let the students know the exact dates. Finally, there will be a quiz at the end of the semester worth 10 points. There will be one (1) notebook checkup, and one (1) lab report. Attendance is mandatory except for university-authorized excuses. For each unexcused absence, you lose 3 points in attendance. For each day past due on report, you lose 2 points. Contact me in advance if you are sick or have a job interview.
Lab participation, questions and comments during the semester are encouraged by the TA and this participation will be worth 5 points.

Attendance:	30
Lab participation:	5
Short quizzes:	5
Final quiz:	10
Lab notebook:	20
Report:	30
Total:	100 points

Final Grades:

A: 90 to 100
B: 80 to 89
C: 70 to 79
D: 60 to 69
F: 59 or below

Recommended reading: Molecular Biology Problem Solver, A Laboratory Guide. Edited by Alan S. Gerstein. Wiley-Liss, a John Wiley & Sons, Inc, Publication, 2001.

Prerequisites: ENTO428 (or concurrent registration) or equivalent courses

Americans with Disabilities Act (ADA) Policy Statement: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe that you have a disability requiring accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Cain Hall or call 845-1637.

Academic Integrity Statements: AGGIE HONOR CODE "An Aggie does not lie, cheat, or steal or tolerate those who do". Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System (www.tamu.edu/aggiehonor/).

Teaching Laboratory Safety: The Department of Entomology is committed to the safety of all students and employees participating in teaching laboratories. To ensure that a safe environment is maintained in our teaching laboratories, it is expected that all students will adhere to general safety guidelines and emergency procedures, as well as course-specific and activity-specific safety instructions provided by faculty and teaching assistants. Laboratory safety and emergency procedures will be reviewed during the first class period and on a regular basis thereafter.

Course schedule

Lab 1 (Sep 12th): Lab safety and general rules, pipetting practice and calculations (Assessment quiz)

Lab 2 (Sep 19th): DNA extraction

Lab 3 (Sep 26th): DNA extraction and quantification---**Quiz # 1**

Lab 4 (Oct 3rd): PCR and making an agarose gel----**Quiz # 2**

Lab 5 (Oct 10th):	Agarose gel electrophoresis to analyze PCR products
Lab 6 (Oct 17th):	Bacterial inoculation and plasmid miniprep---**Quiz # 3**
Lab 7 (Oct 24th):	Protein quantification using Bradford assay---**Quiz # 4**
Lab 8 (Oct 31st):	Lab report: requirement and writing
Lab 9 (Nov 7th):	Make the SDS-PAGE gel and preparing samples
Lab 10 (Nov 14th):	Running the SDS-PAGE gels and staining—**Quiz # 5**
	Report due (30 points)
Final lab (Nov 21st)	Documentation of SDS-PAGE results
	Final quiz (10 points)
	Notebooks for checkup (20 points)