Term: **SPRING 2016**  
Course No. & Section: **BIOL 314-01**  
Course Title: **TROPICAL ECOLOGY**  
Professor: **DR. VICTOR CARMONA**

**Course Description (principal topics covered):**

- **Objectives:**
  - To serve as an introduction to tropical biodiversity, natural history and conservation
  - To foment the principles of field-experimentation in an international research environment
  - To introduce the species concept and species delimitation issues in biology
  - To survey the hypotheses behind latitudinal diversity gradients
  - To experience the diversity of tropical species interactions in a field setting and discuss them in terms of co-evolutionary theory
  - To interact with and learn from the experiences of the Faculty and Students from the Biology Department at Mexico’s Autonomous University of Aguascalientes

- **Content:**
  - **Modules:** Early tropical naturalists, Maintenance of tropical biotas, Geographic mosaic of coevolution, Tropical forest dynamics, Conservation biology in the tropics.
  - **Lectures:** Diversity, Species concept, Diversity gradients, Plant-Animal interactions, Biogeography, Holdridge life zones, Climate diagrams, Natural History of Mexico’s Sierra Madre, Organization of the National Park system in Mexico, Brief history of Mexico.
  - **Workshops:** Primer to Tropical field biology, Primer to field instrumentation, Intro to Biostats, Species estimates & rarefaction techniques, Experimental design, Intro to plant taxonomy, Intro to insect taxonomy.

- **Prerequisites/Recommended Background:**
  - BIOL 101, 102, 111 & 112; CHEM 110 & 112; MATH 122 or 131.

- **Required Texts/References:**

- **Course Work/Expectations:**
  - Semester hours: 4 [Lecture: 3 contact hours; Lab: 4 contact hours]
  - Grades will be based on: Class participation, end of module quizzes, project presentations, peer evaluations, and project manuscript.
  - International travel to La Peña del Gato, Aguascalientes, Mexico during Spring Break.
  - Local travel to Page Museum at La Brea Tar Pits.
  - Local travel to Huntington Botanical Gardens.

- **Comments:**
  - This is a travel-embedded course that will meet regularly during the spring semester and travel during spring-break to conduct field-research projects at the *La Peña del Gato* in Aguascalientes, Mexico. As such, the lab fee is $1250 per student.