

BSC 413/513(2 hours)/413L/513L(1 hour)
Arachnida Biology/Arachnida Biology Laboratory

Lecture References: no text is used; lectures are supplemented with handouts;
"Recommended Resources*" held on reserve in laboratory classroom.

Lecture Topics:

Introduction to Arachnida

- Phylum Arthropoda
- Phylogenetic position
- Geologic Time Scale
- Characteristics of Phylum Arthropoda
- Comparisons with Annelida and Onychophora
- Classification (and Distinguishing Characteristics)
 - Subphylum Trilobita
 - Subphylum Chelicerata
 - Class Xiphosura (Merostomata)
 - Class Eurypterida
 - Class Pycongonida
 - Class Arachnida
 - Subphylum Crustacea
 - Subphylum Atelocerata
 - Class Diplopoda
 - Class Chilopoda
 - Class Hexapoda

Rules of Nomenclature

Order Arachnida

External Morphology
Arachnid Orders (characteristics, examples, lifestyles)

- Scorpionida (Scorpionides, Scorpiones)
- Pseudoscorpionida (Pseudoscorpiones)
- Opilionida (Phalangida)
- Acarina (Acari, Acarida)
- Uropygida (Thelyphonida)
- Solpugida (Solifugae)
- Amblypygida (Amblypygi, Phrynichida)
- Palpigrada (Palpigradi, Microthelyphonida)
- Araneae (Araneida)
- Schizomida (Tartarides, Schizopeltida)
- Ricinulei (Ricinuleida)

Laboratory Text: Kaston, B.J. 1978. *How to Know the Spiders*, 3rd Ed., WCB Publishers, Dubuque, Iowa. 272 pp.

Laboratory Topics:

Morphological features of arthropod groups
Distinguishing features of insects, arachnids, crustaceans
General features of external anatomy of arachnids
Using dichotomous keys
Characteristics of Arachnid Orders
Collection and identification of arachnids (by order and family)
Sight identification of arachnid orders

Course Grade: The same letter grade is recorded for both lecture and laboratory portions of course, i.e. 413/513, 413L/513L. Arachnid collection represents 35% of course grade; final exam represents 25% of course grade. Other exams (announced) will account for the remaining 40% of the grade. **A research project will be required of 513 students.** This project will be counted as 30% of the 40% portion of the course grade.

***Recommended Resources:**

Barnes, R.D. 1968. *Invertebrate Zoology, 2nd Ed., Class Arachnida*. W.B. Sanders Company, Philadelphia, pp. 385-423.

Comstock, J.H. 1971. *The Spider Book*. W.J. Gertsch ed., Cornell University Press, Ithaca, N.Y., 729 pp.

Hoff, C.C. 1949. The Pseudoscorpions of Illinois. Illinois Natural History Survey Bulletin 24(4):413-498.

Oliver, J.H., Jr. 1989. Biology and Systematics of Ticks (Acari: Ixodida). Ann. Rev. Ecol. Syst. 20:397-430.

Savory, T. 1964. *Arachnida*. Academic Press Inc., New York, N.Y., 291 pp.