Palynology--Systematic Pollen and Spore Morphology
BOT4935 (undergrad), BOT 6935 (grad); GLY 6932 (grad)
Fall Semester, 2025

Instructor: Steven R. Manchester steven@ufl.edu

Credits: 2
Time, Place: **Monday**, 4th and 5th periods (10:40-12:35), Rolfs Hall 105

Goals: To provide experience in the recognition and identification of pollen and spores through geologic time and across major phylogenetic groups, with special attention to patterns established in different clades of flowering plants. At the same time, we will consider the evolutionary and ecological significance of different pollination adaptations reflected in pollen morphology. Both extant and fossil pollen and spores, representing a wide range of ferns, gymnosperms, and angiosperm families will be included. The second hour will be devoted in part to the analysis of actual specimens by light microscopy.

Course Format: Meets 2 successive hours per week on Monday. Combination of lectures, discussion of assigned reading, and observation of demonstration slides in class. The latter will take advantage of the extensive collection of modern and fossil pollen slides in the paleobotanical collections of the Florida Museum of Natural History.

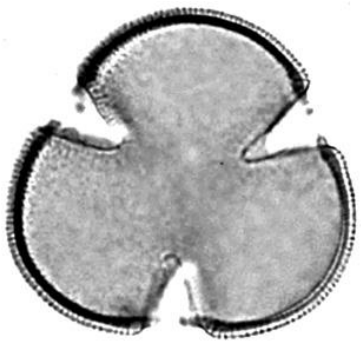
Readings: The course does not have a required textbook, but readings from journal articles will be sent on a weekly basis for discussion in class.

Office Hours. Fridays 1:30-2:45, or by appointment. 352 273-1935; steven@ufl.edu

Grading: 1 midterm exam and a final exam, both open notebook. Exams will include short written essays and analysis of example images or specimens at the microscope. A term project, culminating in a written abstract and oral presentation to the class, required for graduate students, optional for undergrads. Personal notebook, with hand-drawn sketches of representative spore and pollen types from laboratory exercises, to be turned periodically for "quality control."

Tentative Schedule:

Week	Topic
1	Introduction; Morphology and functional significance of spores and pollen
2	Fern spores
3	Mega and microspores
4	Gymnosperm pollen-major types through time.
5	Gymnosperm pollen II
6	Diagnostic features of angiosperm pollen, and the early fossil record
7	Basal grade angiosperm pollen
exam	
8	Monocot pollen
9	Lower Eudicot pollen types
10	Selected Rosid pollen types
11	Selected Asterid pollen types



12 Applications: forensics, honey.
13 Applications: paleoenvironment
14 Case histories. Fagales
15 Geometrically bizarre and fun pollen types.
16 Student Project presentations