



Course Description

BSC2250 | Natural History of South Florida | 1.00 credit

Integrates and correlates certain features of the natural history of South Florida such as the geology, meteorology, flora, fauna, ecology, and the conservation thereof.

Course Competencies:

Competency 1: The student will become familiar with the physical geography of South Florida and will be able to demonstrate knowledge of South Florida's physical geography:

1. Describing and/or illustrating Geologic Time.
2. Describing Plate Tectonic Theory and evidence that does not fit the theory.
3. Describing and/or illustrating South Florida's Climate.
4. Describing and/or illustrating the effects of sea level changes in South Florida.

Competency 2: The student will become familiar with the basic principles of ecology by:

1. Defining basic vocabulary terms of ecology.
2. Explaining the basic structure and function of South Florida ecosystems. Summarizing the contributions of biogeography, ecology, and molecular biology to our modern understanding of the history of animal life on planet Earth.

Competency 3: The student will become familiar with South Florida freshwater marshes: water, weather, and fire, and will to demonstrate knowledge of freshwater marshes by:

1. Describing the structure of marsh vegetation and plant communities: saw grass marshes, wet prairies, sloughs, ponds (alligator holes), and creeks.
2. Describing the periphyton.
3. Describing marsh soils.
4. Discussing water quality issues.
5. Discussing weather and fire

Competency 4: The student will become familiar with South Florida's wetland tree islands and will be able to demonstrate knowledge of wetland tree islands by:

1. Describing bay heads.
2. Describing willows and willow heads.
3. Describing pond apple/custard apple.
4. Describing cypress and cypress heads.
5. Explaining the role and integrity of tree islands.

Competency 5: The student will become familiar with South Florida's tropical hardwood hammocks and will be able to demonstrate knowledge of tropical hardwood hammocks by:

1. Explaining the hammock environment.
2. Describing tree height.
3. Describing the strangler fig.
4. Discussing hammocks and fire.
5. Discussing unpleasant aspects of hammocks.
6. Discussing hammocks and wildfires.

Competency 6: The student will become familiar with South Florida's pineland and will be able to demonstrate knowledge of pinelands by:

1. Discussing pinelands and fire.
2. Describing endemic plants
3. Describing rocky pinelands.

Competency 7: The student will become familiar with South Florida's mangrove swamps and will be able to demonstrate knowledge of mangrove swamps:

1. Describing each: black mangrove, white mangrove, buttonwood, and buttonwood embankment.
2. Describing mangrove swamps and Everglades wildlife.
3. Describing mangrove swamps and marine fisheries.
4. Describing mangrove swamps and soil building.
5. Describing mangrove swamps and hyper salinity
6. Explaining mangrove reproduction and dispersal.
7. Discussing legal protection of mangroves.
8. Discussing mangroves and mosquitoes issues.
9. Visiting a mangrove swamp.

Competency 8: The student will become familiar with South Florida's coastal lowland vegetation and will be able to demonstrate knowledge of coastal lowland vegetation by:

1. Discussing impacts of hurricane Andrew on the Everglades.
2. Analyzing hurricane frequency and environmental impact in southern Florida.
3. Discussing impacts of hurricane Donna.
4. Describing coastal lowland vegetation.
5. Discussing hurricanes and glacial cycles.

Competency 9: The student will become familiar with South Florida's coastal estuarine and marine waters and will be able to demonstrate knowledge of coastal estuarine and marine waters by:

1. Describing the geology of Florida Bay.
2. Describing the Gulf of Mexico.
3. Describing oysters and mangrove swamps.

Competency 10: The student will become familiar with the origins of South Florida's flora and fauna and will be able to demonstrate knowledge of the origins of South Florida's flora and fauna by

1. Comparing tropical versus subtropical.
2. Describing the elements of the flora.
3. Discussing the origin of the tropical flora: trees, epiphytes, bromeliads, orchids, ferns, marine flora, hurricanes, and dispersal, proximity, and dispersal.
4. Discussing the origin of the temperate flora: trees and marsh vegetation.
5. Discussing the origin of the fauna

Competency 11: The student will become familiar with South Florida's invertebrates and will be able to demonstrate knowledge of the invertebrates by:

1. Describe marine invertebrates.
2. Describe freshwater invertebrates: Florida apple snail, Seminole rams-horn, crayfish, riverine, grass shrimp, and aquatic insects.
3. Describe terrestrial invertebrates: spiders, insects, butterflies, and the Florida tree snail.
4. Discussing the importance of invertebrates.

Competency 12: The student will become familiar with South Florida's freshwater fishes and will be able to demonstrate knowledge of freshwater fishes by:

1. Comparing primary, secondary, and peripheral freshwater fishes.
2. Describing the Florida gar.
3. Discussing introduced fishes.

4. Discussing freshwater fishes and the food chain.
5. Discussing the fisherman's perspective.

Competency 13: The student will become familiar with South Florida's marine and estuarine fishes and will be able to demonstrate knowledge of marine and estuarine fishes by:

1. Differentiating and explaining the structures and functions of lymphoid tissues and organs.
2. Describing the lymphatic circulation
3. Comparing the diversity of marine and estuarine fishes.
4. Describing the game fishes.
5. Describing the mullet.
6. Discussing the importance of marine and estuarine fishes.

Competency 14: The student will become familiar with South Florida's amphibians and reptiles and will be able to demonstrate knowledge of amphibians and reptiles by:

1. Discussing the importance of amphibians.
2. Describing the ecology of the American alligator.
3. Describing the ecology of the American crocodile.

Competency 15: The student will become familiar with South Florida's mammals and will be able to demonstrate knowledge of mammals by:

1. Discussing the importance of amphibians.
2. Describing native terrestrial mammals.
3. Describing the ecology of the Florida panther.

Learning Outcomes:

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Describe how natural systems function and recognize the impact of humans on the environment