

Learning Outcome Portfolio Instructions

You will write technical reports on various learning outcome topics and assemble these reports into a portfolio. Your reports will be graded 50% on format and 50% on content and understanding. Half of your content grade will be based on your ability to correctly answer questions in exams and quizzes prepared to test if you learned the material you submitted.

Only random portions of your reports will be read and graded.

Do not cut and paste or quote from other sources. Form your answers yourself.

Reports should be in Arial font, 11 point; drafts should be double spaced, the final portfolio single spaced.

These reports are not essays, and your opinion or personal perspective should not intrude unless otherwise indicated. Write in a direct explicit fashion, i.e. precisely and clearly. You will lose content points for extraneous information, repetitive statements, rhetorical flourishes, vague-unclear-incorrect statements and flights of fancy. Focus tightly on topic.

1. Format.


You will assemble your reports into a portfolio with a title page, a table of contents and page numbers to aid the reader in navigating your portfolio. Some topics ask that you format your response in a table.

The Learning Outcomes are numbered. Use the Outcome numbers and subsection numbers in your portfolio responses.

2. Content.

2.1 Text. The material should be organized chronologically or sequentially (step by step) to aid the reader in understanding. Cover the Who, What, When, Where, Why and How of each topic as appropriate.

2.2 Images. Insert images into each of your reports. Part of your content grade will be based on how well the images support your comments. Part of your format grade will be based on the clarity of the image and its labeling. Use the Paint program, or other, to re-label and modify images.

<p>You may use simple tables to organize images and text so it is obvious what image the text refers to.</p> <p>You are required to illustrate your reports with images that help you convey your information.</p>	
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The learning outcomes from the syllabus are numbered, reproduced below and subdivided into several report topics for each outcome. Each report should contain 30-60 words unless otherwise specified.

Learning Outcomes for BSC1051 C are listed below. Each outcome is broken down into various assignments that will be distributed across various ecosystems and exams.

These Learning Outcome assignments must be assembled and submitted as a Comprehensive Report along with the final exam. You will construct a computer file on a campus LAN server and store this report. By the end of the semester you must complete the report covering all of the following, turn in a printed copy along with your final exam and place a digital copy of your report in your campus computer

Learning Outcome Portfolio Topics

1. Analyze the major natural features of South Florida and determine how these features influence the major ecosystems of South Florida.

1.1 Group the following topics into groups of related topics, e.g. geology, weather, etc. Pick the group that is most fundamental and analyze them in the first paragraph. The most fundamental topic is that topic that happened first and causes the rest. Include a transition from one paragraph to the next, i.e. from one outline group to the next. 150-200 words

the peninsula shape, location and latitude
ocean currents
winter cold fronts
summer convective thunderstorms
continental drift
high energy, high elevation Atlantic coast
lower energy, low elevation Gulf coast
fluctuating sea level
sand and limestone aquifers
central ridge
flat topography
sea breeze

2. Compare and contrast the similarities and differences of the biotic components of the major South Florida ecosystems. Analyze biotic and abiotic data related to various ecosystems.

2.1 Compare Scrub and Mangrove abiotic components. Organize the following into an outline. Start with the most fundamental and causative, and describe how these cause the rest. 50-100 words

tides
soils/sediments
soil oxygen levels
decomposition and oxidation rates
temperature
humidity
salinity

2.2 Compare Scrub and Mangrove biotic components and relate biotic differences to the abiotic factor responsible. 50-100 words

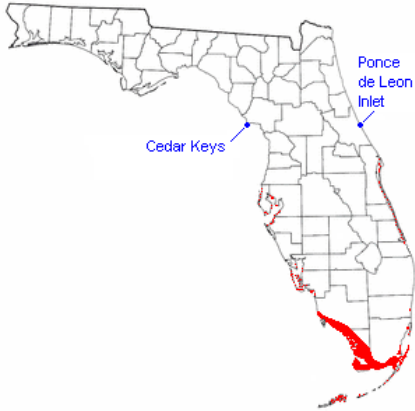
producers: describe the similarities and differences in the producers in the two ecosystems, e.g. above versus below ground biomass, succulent versus rough and sharp, etc.

consumers: describe the similarities and differences in the consumers, grazers, browsers, decomposers and detritivores.

food web: grazing food web versus detritus food web

2.3 Compare Scrub and Mangrove ecosystem response to climate change (temperature and humidity and sea level rise and fall) over thousands of years. 25-50 words

3. Appraise the role of the historical geology of South Florida.

<p>3.1 Why are mangrove ecosystems more abundant, cover a larger aerial extent, on the Gulf coast than on the Atlantic coasts? 1 sentence</p> <p>3.2 Why do isolated mangrove patches extend further north along the Atlantic coast than along the Gulf? 1 sentence</p>	 <p>The map shows the state of Florida with county boundaries. Red shading indicates the distribution of mangrove ecosystems. The shading is most extensive along the Gulf of Mexico coast, particularly in the southern and central regions. Two specific locations are labeled with blue arrows: Cedar Keys on the northern Gulf coast and Ponce de Leon Inlet on the Atlantic coast. The shading also extends northward along the Atlantic coast in several isolated patches.</p>
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3.3 What geological processes caused the formation of the numerous wet depressions that dot the landscape in south Florida? (Capture an aerial image to illustrate these wet depressions, and include the image in your report.) 50-100 words

3.4 What geological processes lead to the formation of the Central Ridge and the extensive scrub ecosystem in this area. (Capture an aerial image to illustrate the location and extent of the Central Ridge.) 50-100 words

3.5 Describe the basic vertical geologic structure of South Florida. Where did the granite that underlies the limestone aquifers come from? Where did the approximately 1500 feet of limestone layers come from? Where did the surface sands come from? 50-100 words

4. Interpret the different patterns of energy flow in different ecosystems.

4. Prepare energy flow diagrams for the scrub and mangrove ecosystems, and describe the different patterns of energy flow. What are the dominant abiotic factors that lead to these different patterns (see 2 above)? 50-100 words

5. Analyze the major biogeochemical cycles in ecosystems.

5.1 Compare the carbon cycle with the phosphorous cycle. Use the Internet to find diagrams of the cycles and include these in your report. 50-100 words

5.2 Describe the effect of flatwoods fires on the cycling of carbon and phosphorous. 50-100 words

5.3 Describe the hydrologic cycle and include a diagram from the Internet. 50-100 words

5.4 Describe how swings in temperature affect the hydrologic cycle causing sea levels to rise and fall. 50-100 words

6. Appraise the role of humans and their impact that threatens different ecosystems.

6.1 What are the dominant human uses that impact the following ecosystems? 1 sentence each.

- mangroves
- scrub
- scrubby flatwoods and dry prairies
- pine flatwoods

6.2 Discuss the benefits of natural fire cycles to flatwoods and scrub and the human activities that most disturb these fire cycles. 50-100 words

7. *Defend techniques used to restore damaged ecosystems.*

7.1 Describe two basic approaches to "mitigating" damage done to ecosystems by human development: 1) building/constructing or restoring and 2) preserving. 50-100 words

7.2 What techniques are being used to restore mangrove ecosystems in Charlotte Harbor damaged by Hurricane Charlie? 1 sentence

7.3 What techniques are being used to restore old improved pastures back to pine flatwoods? 1 sentence

7.4 What techniques are used to restore pine flatwoods after selective logging? 1 sentence

7.5 What techniques are used to restore cypress swamps after clear cut logging? 1 sentence