EPSC 2401 Atmospheric Science – Review Sheet for Final Exam

Chp 10 – Mid- Latitude Cyclones

Definitions:

Mid-Latitude Cyclone	Warm Front	Air Mass
Cold Front	Stationary Front	Warm Sector
Occluded Front	Occlusion	Polar Front
Filling	Trough	Vertically Stacked
Ridge	Anti-Cyclone	

Concepts:

Need to know all of the elements that make up a mid-latitude cyclone and their correct relative positions.

Need to be able to describe how warm and cold fronts differ form each other in the:

- Speed in which they move?
- In their geometries?
- In the intensity of rainfall associated with these fronts
- How widespread this rainfall is?
- Type of specific weather and clouds associated with the progressive passage of these fronts
- Symbols used to indicate these fronts on a weather map

Know the complete life cycle of a mid-latitude cyclone

- Incipient Cyclone Wave Cyclone Development Initial Occlusion
- Bent Back Occlusion

Indicate how upper air flow influences the development and evolution of a mid-latitude cyclone.

- Where does this system form in relation to an upper air trough?
- What is the difference between a vertically tilted versus stacked low?

Know how the track of a mid-latitude cyclone during winter can determine whether a location will get rain or snow during the winter.

Chp. 11 – Thunderstorms

Definitions:

Cumulus Stage	Mature Stage
Dissipation Stage	Outflow Boundary
Hook Echo	Cumulonimbus Cloud

Cumulus Cloud
Stable Layer (Thermal Inversion - Cap)
Atmospheric Instability
Simple Single-Celled Thunderstorm
Tornado
Enhanced Fujita Scale
Updraft
Downdraft
Mutli-Celled Thunderstorm
Supercell Thunderstorms
Funnel Cloud
Lightning
Hail

Concepts:
When are thunderstorms most common in South Texas?
What are the three components needed for thunderstorms to develop?
Be able to describe the life cycle of a thunderstorm
Be able to contrast the two types of multi-cellular thunderstorms
What are the characteristics of a severe thunderstorm?
What is the basis of the classification of tornados?
What are the characteristics of a supercell thunderstorm?
Be able to describe an outflow boundary!
What causes lightning?
What causes hail?

Chp. 12 – Hurricanes and Tropical Systems

Definitions:
Tropical Disturbance
Tropical Storm
Saffir-Simpson Scale
Extra-Tropical Low Pressure System
Spiral Rain Bands
ITCZ
Storm Surge
Tropical Depression
Hurricane
Eye
Eye Wall
Coriolis Effect
Easterly Wave

Concepts:
What is the difference between a mid-latitude cyclone and a hurricane?
Know the different types of tropical low pressure systems
What happens to a hurricane once it makes landfall?
How can thunderstorms form in the low latitudes?
What are the conditions necessary for hurricane development?
When is hurricane season in the northern Atlantic basin?
Where do hurricanes form in general and what specific atmospheric conditions can lead to their development?
What are the major hurricane and tropical storm hazards?

Comprehensive Section

Definitions:

Tropopause	Greenhouse Effect	Albedo	ITCZ
Pyrometer	Thermometer	Sub Tropical High	Hygometer
Electromagnetic Spectrum		Convergence	Divergence
Barometer	Anemometer	Troposphere	Microscale
Stratosphere	Plantetary Scale	Synoptic Scale	Mesoscale

Concepts:

What are the layers of the earth's atmosphere?
What is the composition of the earth's atmosphere?
Know in detail the Greenhouse Effect.
How are the different scales of weather phenomena named?
In detail know the characteristics of a high and low pressure system.
What is the difference between temperature and heat?
What are the different types of water that can exist in a cloud droplet.
In detail be able to outline the different types of precipitation.