BIRD LABORATORY

Start at any of the stations and proceed to any of the other stations until you have visited all of them. Be sure to observe ALL of the material available at each station. You should be able to identify birds from the skin material provided or from good quality pictures or slides. I will expect you to learn the bones listed on the handouts.

One of many important links to bird sites on the WWW:
The University of Michigan Museum of Zoology:
   http://animaldiversity.ummz.umich.edu/chordata/aves.html

Skeletal system
Chicken, pigeon, and egret skeletons, turkey skull.
Learn the major bones of the articulated skeletons and those of the turkey skull as indicated on the diagrams.

Compare the sternum of birds with those of other vertebrates we have. Note the presence of a keel on the sternum. This is present in all birds, but is most pronounced in those that depend on flight. Why?

Be able to identify the following bones on any bird skull:

Dentary    Hyoids    Jugal
Maxilla    Premaxilla    Quadrangle
Sclerotic ring    Surangular

Ventral view of Turkey skull
Integument
On the various skin provided, examine the various types of feathers present. Identify the primary flight feathers and be able to distinguish between primaries and secondaries, remiges and retrices, coverts, contour feathers, filiplumesa raccoon or bobcat pelt find the different types of hair. What types do you find?
As you look at the various bird skins, pay particular attention to the shapes of the beak or bill and feet. What food habits have these beaks and feet been adapted for?

Review the basic internal anatomy of a chicken using the diagram below. What are the primary modifications to the digestive track for resource processing?
List of Birds

Be able to identify the following birds. Most ornithologists use common names so you will not need to learn scientific names, but you are responsible for Family, Order, etc. You also will need to distinguish between males and females where the sexes are dimorphic.

Podicipediformes
Podicipedidae--Grebes
  Pied-billed Grebe

Pelecaniformes
Pelecanidae—Pelicans
  American White Pelican
Phalacrocoracidae--Cormorants
  Double-crested Cormorant
  Anhinga

Ciconiformes
Ardeidae--Herons, Bitterns
  Cattle Egret
  Snowy Egret
  Great Egret
  Little Blue Heron
  Great Blue Heron

Anseriformes
Anatidae--Ducks, Geese, Swans
  Snow Goose
  Snow Goose (blue phase)
  Canada Goose
  Wood Duck
  Mallard
  Gadwall
  Green-winged Teal
  Pintail
  American Wigeon
  Northern Shoveler
  Blue-winged Teal
  Canvasback
  Redhead
  Hooded Merganser

Falconiformes
Cathartidae--New World Vultures
  Turkey Vulture

Accipitridae
Osprey
Northern Harrier
Golden Eagle
Bald Eagle
Red-Shouldered Hawk
Red-tailed Hawk
Falconidae--Caracaras, Falcons
Crested Caracara
American Kestrel

Galliformes
Phasianidae--Partridges, Grouse, and Turkeys
Wild Turkey
Odontophoridae--New World Quail
Northern Bobwhite

Gruiformes
Rallidae--Rails, Gallinules, Coots
Purple Gallinule
American Coot
Gruidae--Cranes
Sandhill Crane

Charadriiformes
Charadriidae--Lapwings, Plovers
Killdeer
Laridae--Gulls, Terns, Skimmers
Laughing Gull
Ring-billed Gull
Black Skimmer

Columbiformes
Columbidae--Pigeons, Doves
Rock Dove
Mourning Dove

Cuculiformes
Cuculidae--Cuckoos, Roadrunners
Yellow-billed Cuckoo
Roadrunner

Strigiformes
Tytonidae--Owls
Barn Owl
Strigidae--Owls
Great Horned Owl
Barred Owl
Eastern Screech Owl

**Caprimulgiformes**
Caprimulgidae--Nighthawks, Nightjars
  Chuck-will's-widow
  Whip-poor-will

**Apodiformes**
Apodidae- Swifts
  Chimney Swift
Trochilidae--Hummingbirds
  Ruby-throated Hummingbird

**Coraciiformes**
Alcedinidae--King fishers
  Belted Kingfisher

**Piciformes**
Picidae--Woodpeckers
  Red-headed Woodpecker
  Red-bellied Woodpecker
  Yellow-bellied Sapsucker
  Red-cockaded Woodpecker
  Pileated Woodpecker

**Passeriformes**
Tyranidae--Tyrant Flycatchers
  Scissor-tailed Flycatcher
  Eastern Kingbird
Laniidae--Shrikes
  Loggerhead Shrike
Corvidae--Crows, Jays
  Blue Jay
  American Crow
Hirundinidae
  Barn Swallow
  Purple Martin
Paridae
  Tufted Titmouse
  Black-capped Chickadee
Trogloidytidae--Wrens
  Carolina Wren
Regulidae--Kinglets
  Golden-crowned Kinglet
Turdidae--Thrushes
American Robin
Gray Catbird
Mockingbird
Brown Thrasher
Eastern Bluebird

Sturnidae--Starlings
European Starling

Bombycillidae--Waxwings
Cedar Waxwing

Parulidae--Wood-Warblers
Yellow-rumped Warbler
Yellow-throated Warbler
Pine Warbler
Yellow-breasted Chat

Emberizidae--Emberizids
Dark-eyed Junco
Northern Cardinal
Indigo Bunting
Painted Bunting
White-throated Sparrow

Icteridae--Blackbirds
Eastern Meadowlark
Western Meadowlark
Common Grackle
Red-winged Blackbird
Brown-headed Cowbird

Passeridae--Old World Sparrows
House Sparrow