

BIOLOGY 323
Exam Study Guide – All Exams
HUMAN ANATOMY FOR BIOLOGY MAJORS
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Midterm and final exams may include projected images of structures studied in either the lecture or laboratory sections of the course. These could be images of actual structure from the lab or simplified images from the lecture PowerPoints.

Following are examples of essay style questions for each of the midterm components. This is by no means a complete list of all potential questions. Some may be found on the exams, and others not listed here will be on the exams.

Midterm One

Example 1

- A. What are the features that define a chordate (the Phylum to which humans belong)?
- B. What is the feature that defines Vertebrata (the Subphylum to which humans belong)?
- C. Name one trans-segmental structure that is found in the embryo, but not in the adult.

Example 2

Provide an illustration of the lumbosacral plexus. Be sure to include information that indicates if components are derived from dorsal or ventral divisions of nerves entering the limb.

Example 3

Diagram the basic cross-section of an **ADULT** human in what would be the abdominal region. Be sure to label completely, and include details of axial musculature and a segmental nerve.

Example 4

Complete the table below.

| | Foregut | Midgut | Hindgut |
|--|----------------|---------------|----------------|
| | | | |

| | | | |
|--|--|--|--|
| Sympathetic nerve | | | |
| Vertebral levels contributing to sympathetic nerve | | | |
| Sympathetic ganglion | | | |
| Parasympathetic nerve | | | |
| Arterial supply | | | |
| Venous drainage | | | |

Midterm Two

Example 1

Beginning with the descending portion of the dorsal aorta, list or illustrate, **IN ORDER** from cranial to caudal, the paired arteries that serve structures of the somatopleure.

Example 2

What are the three regions of the subclavian artery between the clavicle and the upper arm? List its six major branches **IN ORDER** from proximal to distal, and explain how those branches are positioned relative to major muscular landmarks.

Example 3

With the aid of diagrams, show the major muscles that aid in attaching the pectoral limb to the body wall. For each muscle you show, indicate whether it is an axial muscle, branchial muscle, dorsal appendicular muscle, or ventral appendicular muscle.

Example 4 (partial question – there would be more to a single essay)

- A. Name two muscles that attach at the LINEA ASPERA.
- B. List two muscles that attach to the coracoid process.
- C. Loss of function for the pelvic diaphragm AND distal flexors and extensors of the foot might indicate damage at what level?

Example 2

Diagram the basic structure of the embryonic head in lateral view. Include the position of the sensory capsules, special sensory nerves, dorsal root cranial nerves, and ventral root cranial nerves, and the structures to which they go.

Example 3

With the aid of text and a simple diagram, compare the structure of the neck to a standard cross-section found in the body. Be sure to note similarities and differences.

Example 4

A. From what embryonic material are the stapes, incus, and malleus derived?

B. What is their mode of formation?

C. What nerve innervates the stapedius muscle (which attaches to the stapes)?

D. What nerve innervates the tensor tympani muscle (which attaches to the malleus and prevents the eardrum from vibrating too much in the presence of loud noises)?

E. The cranial nerve that is the answer to question D also has a large branch that exits the skull to the surface of the face. Through what two foramina does it pass to get through the skull?

Example 5

The muscles that effect chewing are innervated by a number of different cranial nerves. List the muscles involved, the visceral arch with which they are associated, and their associated cranial nerve.

Example 6

What muscles are associated with inhalation? List the muscles, briefly explain their functions, and indicate what nerves innervate them.

Example 7

Complete the following table.

| CRANIAL NERVE | Name | DORSAL ROOT, VENTRAL ROOT, OR SPECIAL SENSORY? | FORAMEN THROUGH WHICH IT PASSES |
|----------------|------|--|---------------------------------|
| | | | |
| I | | | |
| II | | | |
| III | | | |
| IV | | | |
| V ₁ | | | |
| V ₂ | | | |
| V ₃ | | | |
| VI | | | |
| VII | | | |
| VIII | | | |
| IX | | | |
| X | | | |
| XI | | | |
| XII | | | |