

**SYLLABUS OF LECTURES IN
ANATOMY AND PHYSIOLOGY,
FOR STUDENTS OF THE STATE
NORMAL AND TRAINING
SCHOOL, AT CORTLAND, N. Y.**

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T. B. STOWELL

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— OF —

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187947

— FOR —

STUDENTS

— OF THE —

State Normal and Training School,

— AT —

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— BY —

T. B. STOWELL, A.M.

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INTRODUCTION.

This Syllabus has been prepared with direct reference to aiding my classes in Anatomy and Physiology.

It is hoped that greater efficiency as well as economy of time may be secured by giving directness to inquiry, and by calling special attention to items of chief importance.

The Syllabus is to be used in connection with demonstrations in Anatomy, charts, diagrams, stereopticon views, and the microscope. It is not a substitute for works of reference, text books, or notes; it is simply an aid: hence, where little would be gained other than orthography, terms have been omitted, e. g., no mention is made of the names of muscles, which are studied in class with the aid of manakin and alcoholic preparations; the names of most of the bones are likewise omitted, all of which are studied from the skeleton.

Cortland, N. Y., July, 1877.

T. B. S.

Recless MVP 8/27/30

SYLLABUS.

I. SKELETON.

Items to be noted concerning each bone.

1. Name.
2. Location.
3. General Shape.
4. Articulations.
5. Processes.

Class I.

Order for Study.

POSTERIOR.	{ Femur. Tibia. Fibula. Metatarsal. Phalanges.	ANTERIOR.	{ Humerus. Radius. Ulna. Metacarpal. Phalanges. Clavicle.
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Long Bones.

Structure—Shaft.

Compact tissue, spongy tissue, medullary canal.

Expanded extremities—Serial homologies—System of levers.

Class II.

Tarsal bones, *distal row*—Cuneiform, outer, middle, inner, Cuboid.

Carpal bones, *distal row*—Trapezium, Trapezoid, Magnum, Unciform.

Tarsal bones, *proximal row*—Astragalus, Scaphoid, Calcis (calcaneum).

Carpal bones, *proximal row*—Scaphoid, Semi-lunar, Cuneiform, Pisiform (sesamoid).

Short Bones.

Structure.

Compact tissue thin, chiefly spongy.

Serial homologies—Interarticulations—Limited motion.

Class III.

Flat Bones.

Structure.

Two surfaces of compact tissue, intermediate cancellous, thickness slight. Protection, and surface for muscular attachment.



Class IV.**Irregular Bones.**

Structure.

Externally compact tissue, internally cancellous.

Vertebra.

1. Centrum—Surfaces.

Anterior (upper) and posterior (lower) concave, ventral (front) transversely convex, longitudinally concave, dorsal (back) arch, etc.

Character of centrum in the several regions.

Cervical, in atlas wanting(?), in axis peculiar odontoid process. Is it centrum of atlas? its distinctive mode of ossification (in man), two separate lateral pieces—dorsal and lumbar, relative length and breadth—ankylosis of sacral and caudal.

Intervertebral cartilage,

(Wanting between atlas and axis.)

2. Arch—Pedicles and lamina—Intervertebral foramina for spinal nerves—Relative length and breadth in cervical, dorsal and lumbar regions—Groove in 1° cervical lamina for vertebral artery.

3. Processes—(a.) Spinous.

In cervical region, bifid, diminutive in 1°, long and grooved in 2°, general increase in length to 7°—in dorsal region, directed obliquely backward—in lumbar region, short, broad, directed nearly at right angles with longitudinal axis.

(b.) Articular—at union of pedicle and lamina—anterior and posterior vertebrae distinguished by direction of faces of "zygapophyses."

(c.) Transverse—at junction of articular process and pedicle—characteristic position and direction in the three regions.

In cervical, ventral to articular—perforations for vertebral artery—in dorsal, dorsally disposed—in lumbar, ventral to (in front of) articular, direction dorsal and transverse.

Development of Vertebra.

Primitive dorsal groove in germinal membrane from 'middle blastoderm cells' converted into canal by union of edges—In floor of canal "notochord" developed—Appearance of dark cellular masses, primordial vertebrae—Disappearance of lines of demarcation in masses—Intermediate limits of permanent vertebrae—Vertebra formed from adjacent parts of two primordial masses.

Essentially three pieces to each vertebra.

From one develops greater part of centrum, from other two the arch and processes.

II. BONE STRUCTURE.**Tissues.**

1. Compact.

Exterior of bones, cells small, earthy matter abundant.

2. Cancellous.

Interior of bones, cells large, earthy matter less.

