

**HUMAN PHYSIOLOGY I**  
**BIPN 100 (Summer, 2019)**

**INSTRUCTOR:**

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Office Hours:  
Tuesdays (not 8/20 or 9/3) and Thursdays 2:30 - 3:30 p.m.

**INSTRUCTIONAL ASSISTANTS:**

**SEE SECTION/OFFICE HOURS LIST**

This course covers the physiology of the nervous, muscular, endocrine, cardiovascular, and renal systems. There will be two lectures (Solis Hall 107, Tuesdays/Thursdays 11:00 am - 1:50 pm) per week. Two midterms and a comprehensive final will be given.

	<b><u>Topics</u></b>	<b><u>Date</u></b>	<b><u>Grade</u></b>
<b>Midterm #1</b>	Nerves, Nervous Systems, Skeletal and Smooth Muscle	August 20 (11:00 - 12:30)	30% Solis 107)
<b>Midterm #2</b>	Endocrine System, Cardiac Muscle, Circulatory System	September 3 (11:00 - 12:30)	30% Solis 107)
<b>Final</b>	Renal System, Fluid Balance, and Everything Else	September 7 (11:30 - 2:30)	40%

**REQUIRED MATERIALS**

- Text: Human Physiology, Silverthorn; 7th edition (6th and 5th edition reading lists also provided)

A digital version of the Silverthorn textbook is available through a link on TritonEd. Your student account will be directly charged if you don't opt out through TritonEd **by the add/drop deadline** (8/9/2019). If you opt out, you will not be charged and will no longer have digital access to the Silverthorn textbook. If you don't opt out by 8/9, you will be charged \$52.00 for permanent digital access to the Silverthorn textbook.

- Materials on TritonEd (syllabus, detailed course outline, class notes, problem sets, old exams, etc.)

**DROP DATES:** Check the Summer Session calendar

**PROBLEM SETS:** They consist of questions that will help you evaluate your understanding of the material covered in the lectures and the reading. In most cases they are similar to exam questions. Treat them like exams (answer the questions before looking at the answers). Those who work through the problem sets (and practice exams) are more likely to receive higher grades. These problems sets are to aid in studying and generate discussion. They are not turned in or graded.

**NO CHEATING:** You are not allowed to use cheat sheets or cell phones, look at other students' work, or use any kind of help during the exams. Students caught cheating will receive 0 points for that exam, an "F" in the course, and will be reported to their dean for further administrative action. I also consider it unethical to study from old exams that other students don't have access to (this includes materials from friends/fraternities/sororities/the internet/etc.).

## BIPN 100 SCHEDULE (Summer, 2019)

<u>LECTURE</u>	<u>DATE</u>	<u>TOPICS</u>	<u>READINGS</u> <u>(Silverthorn 7th ed.)</u>
#1	August 6	Background Neuron Structure/Function Membrane Potentials Action Potentials Synaptic Transmission	(1-23, 123-152) (227-236) (153-160, 236-242) (242-253) (253-268, 371-373)
#2	August 8	Central Nervous System Organization Spinal Cord Organization Somatic Motor System Somatic Sensory System	(275-304) (418-431) (371-373) (310-324)
#3	August 13	Autonomic Nervous System Skeletal Muscle Structure/Function Skeletal Muscle Biomechanics	(359-371) (378-398) (398-403)
#4	August 15	Smooth Muscle Endocrine/Receptor Basics	(403-412) (166-191)
#5	August 20	MIDTERM #1 (Nerves through Smooth Muscle) Control Theory Hypothalamus/Pituitary Axis	(13-18) (197-220)
#6	August 22	Other Systems (Thyroid, Pancreas, etc.) Blood Components Circulatory System	(708-719, 736-741) (512-524) (436-450, 478-492)
#7	August 27	Cardiac Electrophysiology Electrocardiogram Cardiac Mechanics Blood Pressure Control	(451-464)  (464-471) (492-496)
#8	August 29	Body Fluids Transport Across Capillaries	(496-501)
#9	September 3	MIDTERM #2 (Endocrine through Capillary Transport) Renal System	(590-613)
#10	September 5	Fluid Volume Control Electrolyte Control Diuretics	(619-641)
	September 7 (Saturday)	FINAL (Everything) 11:30 a.m. - 2:30 a.m. Where - TBA	

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**6<sup>th</sup> edition reading list**

<b><u>LECTURE</u></b>	<b><u>TOPICS</u></b>	<b><u>READINGS</u></b> <b><u>(Silverthorn 6th ed.)</u></b>
#1	Background Neuron Structure/Function Membrane Potentials Action Potentials Synaptic Transmission	(1-25, 130-160) (238-248) (160-166, 248-254) (254-266) (266-281, 391-393)
#2	Central Nervous System Organization Spinal Cord Organization Somatic Motor System Somatic Sensory System	(289-319) (442-458) (391-393) (326-340)
#3	Autonomic Nervous System Skeletal Muscle Structure/Function Skeletal Muscle Biomechanics	(378-391) (399-420) (420-427)
#4	Smooth Muscle Endocrine/Receptor Basics	(427-435) (175-201)
#5	Control Theory Hypothalamus/Pituitary Axis	(14-18) (207-230)
#6	Other Systems (Thyroid, Pancreas, etc.) Blood Components Circulatory System	(753-765, 782-787) (545-557) (463-479, 509-524)
#7	Cardiac Electrophysiology Electrocardiogram Cardiac Mechanics Blood Pressure Control	(479-493)  (493-501) (524-528)
#8	Body Fluids Transport Across Capillaries	(528-533)
#9	Renal System	(627-651)
#10	Fluid Volume Control Electrolyte Control Diuretics	(658-681)

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<b><u>LECTURE</u></b>	<b><u>TOPICS</u></b>	<b><u>READINGS</u></b> <b><u>(Silverthorn 5th ed.)</u></b>
#1	Background Neuron Structure/Function Membrane Potentials Action Potentials Synaptic Transmission	(1-16, 133-157) (247-255) (164-171, 255-259) (259-273) (273-289, 396-401)
#2	Central Nervous System Organization Spinal Cord Organization Somatic Motor System Somatic Sensory System	(297-326) (447-462) (342-348)
#3	Autonomic Nervous System Skeletal Muscle Structure/Function Skeletal Muscle Biomechanics	(386-396) (407-427) (427-432)
#4	Smooth Muscle Endocrine/Receptor Basics	(432-439) (179-209)
#5	Control Theory Hypothalamus/Pituitary Axis	(216-240)
#6	Other Systems (Pancreas, Thyroid, etc.) Blood Components Circulatory System	(736-747, 764-768) (547-558) (468-483, 513-526)
#7	Cardiac Electrophysiology Electrocardiogram Cardiac Mechanics Blood Pressure Control	(483-496) (496-505) (532-540)
#8	Body Fluids Transport Across Capillaries	(526-532)
#9	Renal System	(623-661)
#10	Fluid Volume Control Electrolyte Control Diuretics	(661-672)

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**The best way to study for this class is to do the following:**

- 1). Come to lecture and take notes (or take notes on the class notes).
- 2). **Copy your notes**. While you do this (or while reading through the class notes), use the textbook (or some kind of reference) to help fill in the details or clarify the concepts. The best time to do this is the same day as the lecture. You should also make summary tables (such as a table of receptors, their transduction pathways, locations, and functions) and draw out the transduction pathways/other important figures.
- 3). **Make a list of questions** while you study the class notes. Bring the list with you to office hours and section so you can make sure to get answers to all of your questions.
- 4). Study before going to section.
- 5). First do the problem set questions without looking at the answers. This is the best way to practice problem solving and assess how well you know the material. Then check your answers against the answers that are provided. **Make a list of questions** about things that don't make sense or about how to do the problem solving.
- 6). The review sessions will be used to go over the practice exams. Do the practice exam questions before coming to the review sessions.

**YOU ARE ALLOWED TO:**

- 1). Bring an audio recorder to lecture/review sessions and use recordings for your own studying.

**YOU ARE NOT ALLOWED TO:**

- 1). Take videos of the lectures or review sessions (remember that you should always ask someone before taking a video of them – and my answer will be “No”).
- 2). Post any class materials (including notes, audio recordings, problem sets, exams, etc.) on the internet.