General Education Course Information Sheet

Please submit this sheet for each proposed course

Department & Course Number Nursing 3

Course Title Human Physiology for Healthcare Providers

Indicate if Seminar and/or Writing II course _____

1 Check the recommended GE foundation area(s) and subgroups(s) for this course

Foundations of the Arts and Humanities

- Literary and Cultural Analysis _____
- Philosophic and Linguistic Analysis _____
- Visual and Performance Arts Analysis and Practice _____

Foundations of Society and Culture

- Historical Analysis _____
- Social Analysis _____

Foundations of Scientific Inquiry

- Physical Science _____
  With Laboratory or Demonstration Component must be 5 units (or more) _____
- Life Science x
  With Laboratory or Demonstration Component must be 5 units (or more) _____

2. Briefly describe the rationale for assignment to foundation area(s) and subgroup(s) chosen.

Nursing 3 is an introductory Human Physiology course. It is a required course for all pre-nursing majors. Students gain a basic understanding of biological and physical science principles applied to human physiology, with emphasis on applications to patient evaluation and care. A virtual physiology laboratory will be used to conduct experiments, collect data, and analyze results.

3. "List faculty member(s) who will serve as instructor (give academic rank):
Catherine Carpenter, Associate Professor

Do you intend to use graduate student instructors (TAs) in this course? Yes _____ No _____

If yes, please indicate the number of TAs 1

4. Indicate when do you anticipate teaching this course over the next three years:

2010-2011	Fall Enrollment	_____	Winter Enrollment	_____	Spring Enrollment	_____	**Summer** Enrollment	≤ 60
2011-2012	Fall Enrollment	_____	Winter Enrollment	_____	Spring Enrollment	_____	Summer Enrollment	≤ 60
2012-2013	Fall Enrollment	_____	Winter Enrollment	x 60	Spring Enrollment		Summer Enrollment	≤ 60

5. GE Course Units

Is this an ***existing*** course that has been modified for inclusion in the new GE? Yes X No ___

If yes, provide a brief explanation of what has changed. Currently, Phy Sci 3 is taught through Extension to undergraduate nursing students. We integrated basic biological and physical science concepts into the class, and incorporated the scientific method to evaluate physiologic experimental results.

Present Number of Units: 5 Proposed Number of Units: 5

6. Please present concise arguments for the GE principles applicable to this course.

❑ General Knowledge	N3 teaches a basic understanding of human physiological processes with an emphasis on applications to patient evaluation and care. N3 utilizes the scientific method of experimentation to characterize and evaluate physiologic processes in relationship to clinical observation. Underlying biology and physical science principles are used to explain human health.
❑ Integrative Learning	N3 utilizes the cellular functions of membrane transport, enzymatic regulation, receptor-ligand interaction, protein synthesis, and metabolism to describe interdependence between organ systems in relationship to these processes.
❑ Ethical Implications	Throughout the course, students will explore ethical challenges faced by clinical practitioners including implementing medical technology to influence the beginning and end of life.
❑ Cultural Diversity	Unequal access to health care, to good nutrition, and to exercise, provides challenges for vulnerable populations to maintain physiologic health. We will explore cultural and racial diversity in relationship to societal pressures that compromise human health.
❑ Critical Thinking	N3 will teach students to characterize clinical problems, formulate hypotheses, test physiologic results from experiments simulated in the laboratory in the context of uncertainty, and draw conclusions from the results.
❑ Rhetorical Effectiveness	Students will develop rhetorical skills to characterize physiologic processes by synthesizing clinical observations with an underlying biological understanding of normal organ function. Students will learn how to communicate these observations to others by developing a clear syntax and effective use of medical terminology.
❑ Problem-solving	Students will address problems related to the weekly lab experiments, as well as answer critically challenging exam questions designed to teach problem solving skills related to clinical care.
❑ Library & Information Literacy	Students will manage information from lecture presentations, the course website, virtual laboratories, podcasts, and the primary medical literature. Students will synthesize information from the multiple sources in relationship to key physiologic concepts.

(A) STUDENT CONTACT PER WEEK (if not applicable write N/A)		
1. Lecture:	**3**	(hours)
2. Discussion Section:		(hours)
3. Labs:	**2**	(hours)
4. Experiential (service learning, internships, other):		(hours)
5. Field Trips:		(hours)
(A) TOTAL Student Contact Per Week	**5.0**	**(HOURS)**

(B) OUT-OF-CLASS HOURS PER WEEK (if not applicable write N/A)		
1. General Review & Preparation:	**2.0**	(hours)
2. Reading	**3.0**	(hours)
3. Group Projects:		(hours)
4. Preparation for Quizzes & Exams:	**2.0**	(hours)
5. Information Literacy Exercises:	**2.0**	(hours)
6. Written Assignments: (lab)	**2.0**	(hours)
7. Research Activity:		(hours)
(B) TOTAL Out-of-class time per week	**11.0**	**(HOURS)**
GRAND TOTAL (A) + (B) must equal at least 15 hours/week	**16.0**	**(HOURS)**

University of California at Los Angeles

School of Nursing

Nursing 3: Human Physiology for Healthcare Providers

Winter Quarter, 2013

Course Number and Title:
Nursing 3: Human Physiology for Healthcare Providers

Number of Units:
5 units: 3 hours/week lecture; 2 hours/week laboratory
Lecture: Tuesday, Thursday 8AM - 9:20AM, Botany, 325
Laboratory: Tuesday, Thursday, 9:30AM – 11:20AM, Royce, 148

Catalog Description:
Basic understanding of human physiological processes, with emphasis on applications to patient evaluation and care. Concepts underlying normal function and how alterations in these normal functions can affect body systems. Knowledge and understanding of these normal human processes is basic to providing quality nursing care. Examination of system variations across lifespan.

Prerequisite Courses:
This is an introductory course. There are no prerequisites.

Course Objectives:
Upon successful completion of this course, the student will be able to:

1. Apply the universal scientific laws of physics and chemistry in relationship to the living human organism through lectures, laboratory experiences, writing up experimental results, and discussion.
2. Critically describe the underlying principles of cell biology in relationship to the major physiologic systems of the living human organism, and describe how these principles operate during nursing clinical evaluation and patient care.
3. Recognize the major functions of each organ system and what constitutes normal physiologic health.
4. Identify cellular processes in the major organ systems and characterize the interdependence between organ systems in relationship to these processes.
5. Demonstrate familiarity with the scientific method through characterization of clinical problems, hypothesis formulation, testing of physiologic results from experiments simulated in the laboratory, and drawing conclusions from the results.
6. Develop a foundation for physical examination by synthesizing clinical observations with an underlying biological understanding of normal organ functioning.
7. Draw inferences to physiologic conditions and pathologic states based on results derived from observational scientific experiments.

Skills and Competencies

1. Critical knowledge about underlying physiologic principles common to all organ systems.
2. Enhanced perception of each organ system in relationship to their unique function and their shared interdependence with other organ systems.
3. Ability to implement the scientific method to address unknown clinical conditions by combining laboratory derived data with biological properties about normal and diseased physiologic conditions.
4. Capacity to evaluate contemporary biomedical literature in relationship to physiologic concepts.

Teaching Methods:
Lectures, discussion, simulated laboratory experiments, maintenance of a laboratory notebook.

Attendance Policy:
It is important that future nursing majors show commitment to their field by reliably showing up to all lectures. **Attendance in the laboratory is mandatory.** All material is due at the time and on the dates specified in the syllabus.

Faculty Responsible for the Course:
Catherine L. Carpenter, PhD, MPH
Adjunct Associate Professor of Medicine, Nursing, and Public Health
UCLA Center for Human Nutrition
Room 14-193 Warren Hall
Email: ccarpenter@mednet.ucla.edu
Telephone: 310-567-8614 (mobile: send text message for urgent matters & emergencies—please include your name with message)

Office Hours: After lab, or by appointment

Teaching Assistant:
Soutana Haftoglou, MPH
Email: shaftoglou@ucla.edu
Office Hours: to be determined

Course Evaluation:

A. Lecture (worth 75% of grade)
Two midterms (each worth 100 points), and final exam (worth 200 points).

B. Laboratory (worth 25% of grade)
One midterm lab quiz (20 points); lab final (30 points); pre-lab quizzes (20 points); laboratory notebook that contains experimental results from experiments (30 points); extra credit report (10 points).

Lecture:
Lecture meets twice a week. Lecture slides will be posted in advance on the Moodle course website. Students are welcome to download the lecture material prior to lecture.

Laboratory:
Laboratory meets right after the lecture. Half the class will be assigned to one laboratory meeting on Tuesday after lecture. Rest of class will be assigned to laboratory that meets on Thursday.

All laboratory sessions will be simulated using the Physio-EX 9.0 software available under the Mastering A & P package. Each of you is required to purchase the laboratory software which is available in the Health Sciences Bookstore. In addition, you must bring your laptop, if you have one available, to the laboratory session. If you do not own a laptop, you can rent one at the Biomedical library. Prior to each laboratory session, there are pre-lab questions that you are required to complete before the laboratory session. Questions are contained in the software. These questions are designed to encourage preparation prior to coming to the lab. Either the TA or I will give an introductory lecture and explanation of the laboratory exercises for that particular day. Questions are built into the software that you are required to answer as part of conducting the experiment. Some experiments require that you analyze data and answer questions related to the data. Once you finish the experiment, you can save your results as a pdf file. You can print out the file and include with your laboratory notebook. All pdf files can be printed and placed in the laboratory notebook that will be graded at the end of the quarter.

Other supplementary material that complement the labs will provided throughout the course.

Required Course Material (available in Health Sciences Bookstore):
Text:
Silverthorn D.U. (2012). *Human Physiology, an Integrated Approach*. (6th ed.). Boston, MA: Pearson /Benjamin Cummings.
ISBN-10: 0321750071

Software:
Zao P., Stabler T., Smith L., Lokuta A., & Griff E. (2012). *Physio-Ex 9.0, laboratory simulations in physiology*. Boston, MA: Pearson/Benjamin Cummings.
ISBN-10: 0321811402
Note: software is contained within 'Mastering A & P'

Note: I asked the bookstore and the publisher to provide three options to students in the course. You can purchase a hardbound textbook and software (Mastering A & P) for approximately $150.00; a loose leaf textbook and software for approximately $100.00; and software only for approximately $50.00. If you choose the software only option, you can access the textbook on reserve in the library although availability cannot be guaranteed since there will be a limited number of textbooks on reserve.

N3: Human Physiology for Healthcare Providers: Lecture and Laboratory Schedule, Winter, 2013

Week 1	Class 1		Class 2		Laboratory 1
	Introduction Fluid Dynamics and Biomolecules Reading: Silverthorn: chap 1, chaps 2; 20, p 658-660		Cells & Organelles Cell Function: cell division, protein synthesis, cell respiration. Chap 3 p 69-80; chap 4 p 99-104; p 109-117		Orientation to laboratory cellular transport, diffusion and osmosis
Week 2	**Class 3**		**Class 4**		**Laboratory 2**
	Regulation & Enzymatic Action on Cellular Level. chap 4 p 105-108		Membrane Transport Chap 3 p 65-69; chap 5		Enzymes and chemical process of digestion
Week 3	**Class 5**		**Class 6**		**Laboratory 3**
	Receptor-Ligand Interaction Cell Signaling Chap 6		Nervous System I: action potential and transmission between neurons chap 8		Neurophysiology of nerve Impulses
Week 4	**Class 7**		**Class 8**		**Laboratory 4**
	In class midterm		Nervous System II: CNS function, Sensory, Efferent. chap 9 p 306-320; chap 10 p 326-334;chap 11 p 378-385		Endocrine system Physiology
Week 5	**Class 9**		**Class 10**		**Laboratory 5**
	Endocrine System: hormones, neurotransmitters, feedback, hypothalamus & pituitary. chap 7		Circulatory System, hemodynamics, heart movement, blood pressure Chap 14; chap 15 p 509-531		**Midterm quiz** Cardiovascular dynamics
Week 6	**class 11**		**class 12**		**Laboratory 6**
	Respiratory system Chap 17; chap 18 p 600-615		Kidney: dialysis, homeostasis, filter, reabsorb, secretion. Chap 19; chap 20		Cardiovascular/respiratory Mechanics
Week 7	**class 13**		**class 14**		**Laboratory 7**
	Digestion, enzymes, food Breakdown & transport. chap 21		**In-class midterm**		Renal system physiology
Week 8	**class 15**		**class 16**		**Laboratory 8**
	Liver & pancreas: energy regulation Chap 22		Male reproductive system Chap 26 p 851-866		Plasma glucose, insulin, pancreatic lipase, bile
Week 9	**class 17**		**class 18**		**Laboratory 9**
	Female reproductive system Chap 26 p 866-886		Immune System Chap 24		Blood Typing Analysis (ABO/Rh);Serologic Testing; Lab Review
Week 10	**class 19**		**class 20**		
	Functional interconnectivity		Systemic review		**Lab Practicum/Notebooks due**

UCLA Course Inventory Management System

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New Course Proposal

	Nursing 3 Human Physiology for Healthcare Providers
Course Number	Nursing 3
Title	Human Physiology for Healthcare Providers
Short Title	HUMAN PHYSIOLOGY
Units	Fixed: 5
Grading Basis	Letter grade only
Instructional Format	Lecture - 3 hours per week Laboratory - 2 hours per week
TIE Code	LECS - Lecture (Plus Supplementary Activity) [T]
GE Requirement	No
Major or Minor Requirement	Yes
Requisites	None
Course Description	Lecture, three hours; laboratory, two hours. Basic understanding of human physiological processes, with emphasis on applications to patient evaluation and care. Concepts underlying normal function and how alterations in these normal functions can affect body systems. Knowledge and understanding of these normal human processes is basic to providing quality nursing care. Examination of system variations across lifespan. Letter grading.
Justification	Introduction to Physiology is a required course for all undergraduate Nursing students. There is a strong need for a basic Physiology course for nursing students and other health science students, at UCLA and other institutions. At this time, UCLA Nursing students take Physiology through UCLA Extension, which is a less than ideal solution, as the faculty have less control of the course content and delivery, and are struggling in their subsequent Pathophysiology coursework. Further, students also need Physiology to be noted on their UCLA transcript and have a letter grade associated with the class.
Syllabus	File *N3 Human Physiology syllabus (Su12).doc* was previously uploaded. You may view the file by clicking on the file name.
Supplemental Information	
Grading Structure	i>clicker participation 10% Exam 1 score 30% Exam 2 score 30% Final exam score 30%
Effective Date	Summer 1 2012
Instructor	Name: Mary Woo — Title: Professor

Quarters Taught	☐ Fall ☑ Winter ☐ Spring ☑ Summer	
Department	Nursing	
Contact	Name	E-mail
Routing Help	IRINA TAUBER	itauber@sonnet.ucla.edu

ROUTING STATUS

Role:	Registrar's Office
Status:	Processing Completed

Role:	Registrar's Publications Office - Hennig, Leann Jean (lhennig@registrar.ucla.edu) - 56704
Status:	Added to SRS on 1/31/2012 3:19:35 PM
Changes:	Description
Comments:	Edited course description into official version.

Role:	Registrar's Scheduling Office - Thomson, Douglas N (dthomson@registrar.ucla.edu) - 51441
Status:	Added to SRS on 1/24/2012 1:06:51 PM
Changes:	No Changes Made
Comments:	No Comments

Role:	FEC Chair or Designee - Tauber, Irina (itauber@sonnet.ucla.edu) - 55884
Status:	Approved on 1/23/2012 12:01:01 PM
Changes:	Requisites
Comments:	Acting as the FEC Chair Designee for Dr. Bates-Jensen and for the Associate Dean of Academic Affairs, Dr. Compton.

Role:	Initiator/Submitter - Tauber, Irina (itauber@sonnet.ucla.edu) - 55884
Status:	Submitted on 1/20/2012 11:32:13 AM
Comments:	Initiated a New Course Proposal

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Comments or questions? Contact the Registrar's Office at
cims@registrar.ucla.edu or (310) 206-7045