Los Angeles Community College District

COURSE OUTLINE

Outline Status: Outline Update (ECD 9610); 2009-2010

Section I: BASIC COURSE INFORMATION

1. **COLLEGE: L.A. SOUTHWEST COLLEGE**
2. **SUBJECT: PHYSIOLOGY**
3. **COURSE NUMBER: 001**
4. **COURSE TITLE: INTRODUCTION TO HUMAN PHYSIOLOGY**
5. **UNITS: 4**
6. **CATALOG COURSE DESCRIPTION:**

This is an introductory course that examines how the human body functions with emphasis on the endocrine, nervous, cardiovascular, muscular, respiratory, digestive, reproductive and excretory systems. Upon completion of this course the student will able to describe the major functional characteristics of the human body.

7. **CLASS SCHEDULE COURSE DESCRIPTION:**

This is an introductory course that examines how the human body functions with emphasis on the endocrine, nervous, cardiovascular, muscular, respiratory, digestive, reproductive and excretory systems. Upon completion of this course the student will able to describe the major functional characteristics of the human body.

8. **INITIAL COLLEGE APPROVAL DATE: Before 2000**
9. **COURSE OUTLINE UPDATE APPROVAL DATE: 3/16/10**
10. **CLASS HOURS:**

	Standard Hrs Per Week (based On 18 weeks)		Total Hs per Term (hrs per week x 18)		Units	
Lecture:	**3**		**54**		**3**	
Lab/Activity (w / homework):	**3**		**54**		**1**	
Lab/Activity (w /o homework):	**0**		**0**		**0**	
Totals:	Lecture:	**3**	Lecture:	**54**	Lecture:	**3**
	Lab:	**3**	Lab:	**54**	Lab:	**1**
	Total:	**6**	Total:	**108**	Total:	**4**
Totals In Protocol:	Lecture:	**3**	Lecture:	**54**		
	Lab:	**3**	Lab:	**54**		
	Total:	**6**	Total:	**108**	Total:	**4**

11. PREREQUISITES, COREQUISITES, ADVISORIES ON RECOMMENDED PREPARATION, and LIMITATION ON ENROLLMENT:

Note: The LACCD's *Policy on Prerequisites, Corequisites and Advisories* requires that the curriculum committee take a separate action verifying that a course's prerequisite, corequisite or advisory is an 'appropriate and rational measure of a student's readiness to enter the course or program' and that the prerequisite, corequisite or advisory meets the level of scrutiny delineated in the policy.

PREREQUISITES: Yes

	Subject	Number	Course Title	Units	Validation Approval Date
	BIOLOGY	003	INTRODUCTION TO BIOLOGY	4	3/16/10
Or	BIOLOGY	005	INTRODUCTION TO HUMAN BIOLOGY	4	3/16/10

COREQUISITES: No

	Subject	Number	Course Title	Units	Validation Approval Date

ADVISORIES: No

	Subject	Number	Course Title	Units	Validation Approval Date

12. OTHER LIMITATIONS ON ENROLLMENT: (See Title 5, Section 58106 and Board Rule 8603 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

None

Section II: COURSE CONTENT AND OBJECTIVES

1. COURSE CONTENT AND OBJECTIVES:

COURSE CONTENT AND SCOPE - **Lecture:** Outline the topics included in the lecture portion of the course *(Outline reflects course description, all topics covered in class).*	Hours per topic	COURSE OBJECTIVES - **Lecture:** Upon successful completion of this course, the student will be able to..*(Use action verbs - see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.')*
I. Scientific Method, Molecules, Homoeostasis A. integration of physiological functions B. levels of organization C. biomolecules D. structure of atom II. Cell Structure and Function A. relationship between biology and chemistry. B. cellular organelles C. organic compounds--carbohydrates, lipids, proteins, nucleic acids III. Genetic Control And Cellular Metabolism A. role of enzymes in cellular metabolism B. required parameters for optimal enzyme Activity C. protein synthesis 1. translation, transcription, complement base pairing and protein transport IV. Membrane Transport A. cell membrane and their roles in cell function B. diffusion of nonpolar molecules, inorganic ions and water through a cell membrane C. equilibrium and disequilibrium and their role in physiology V. Nerve Physiology A. resting membrane potentials B. the role of ion movement and cell electrical potential (action potential) C. electrical signaling to transmit information D. sympathetic and parasympathetic neurons E. neurotransmitter release in autonomic neurons vs. somatic motor neurons F. factors that affect action potential conduction. VI. Muscle Physiology A. proteins involved with contraction B. sliding filament theory 1. molecular events of a muscle contraction 2. excitation-contraction coupling 3. microanatomy of muscle fibers VII. Circulatory System A. mechanical and electrical effects of the cardiac cycle (outline the flow of blood) B. pressure, volume, resistance, vessel length	6 6 6 9 9 9 9	1. Using terminology, specific facts, experimental methodologies and general principles, solve physiological problems associated with the structural and functional organization of the following systems: nervous, endocrine, muscular, reproductive, cardiovascular, respiratory, digestive and excretory. 2. Distinguish how each system relates to the maintenance of homeostasis. 3. Describe protein synthesis, paying particular attention to translation, transcription, complement base pairing and protein transport. 4. Compare and evaluate the relationships between the chemical components of the body and its structure and metabolism. 5. Examine the factors that affect action potential conduction. 6. Arrange the steps, in sequence, involved in the sliding filament theory of muscle contraction. 7. Describe the mechanical and electrical events in the cardiac cycle. 8. Propose certain chemical factors that affect ventilation via central and peripheral chemoreceptors. 9. Recognize the nephron as the functional unit of the kidney and compare the three basic processes of the urine formation 10. Compare and contrast carbohydrate, protein, and fat digestion and metabolism. 11. Examine hormones and their mode of action, target cells, and physiological effect. 12. Organize and order the scientific method. 13. Differentiate the terminology, facts, methodology, principles and theories of human physiology.

and fluid viscosity effects on fluid flow C. chemical communication process involved with blood cell production D. composition of human blood VIII. Respiratory System A. Boyle's law B. ventilation, inhalation, and exhalation C. chemical factors that affect ventilation via central and peripheral chemoreceptors IX. Kidney Physiology A. the nephron B. urine formation 1. glomerular filtration 2. tubular reabsorption 3. tubular secretion C. cell types in each major region of the nephron. X. Digestive System and Metabolism A. carbohydrate, protein, and fat digestion, absorption and metabolism B. glycolysis and cellular respiration. XI. Reproductive and Endocrine Systems A. three categories of hormones B. hormone synthesis, storage/release, transport in blood, reproduction C. location of receptors & mechanism of cellular response D. pathways involved in the control and release of endocrine and neuronedocrine reflexes E. male and female gonad differentiation and gamete production F. menstrual cycle G. embryonic and fetal development; childbirth		
Total:	54	
Total Hrs In Protocol:	54	

1. (cont'd) LAB:

COURSE CONTENT AND SCOPE - **Lab:** Outline the topics included in the laboratory portion of the course *(Outline reflects course description, all topics covered in class).*	Hours per topic	COURSE OBJECTIVES - **Lab:** Upon successful completion of this course, the student will be able to..*(Use action verbs - see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.')*
I. Classification of Tissues II. The Cell - Transport Mechanisms III. Reflex Physiology IV. Sensory Physiology I V. Sensory Physiology II VI. Cardiovascular-Exercise VII. Cardiovascular-ECG VIII. Temperature and Blood Flow IX. Respiratory and Changes in Position	3 6 3 6 6 3 3 6 6	1. Use concepts learned while studying the systems to interpret new situations in physiology relating to their own body function and to predict the effects of disrupting homeostasis. 2. Record, interpret and analyze physiological data through use of appropriate laboratory equipment.

X. Renal Physiology Urinalysis XI. Ph and Acid-Base XII. Digestion	3 6 3	3. Apply physical laws to activities concerning biological processes. 4. Apply chemical laws to actives concerning biological processes. 5. Define and order the scientific method. 6. Identify the terminology, facts, methodology, principles and theories of human physiology. 7. Apply the skills in a laboratory setting in the interpretation, analysis, synthesis and evaluation of data.
Total:	54	
Total Hrs In Protocol:	54	

1. (cont'd) SLO:

The student will.. **(outcome)**	As measured by the following method.. **(assessment strategy)**	And, if applicable, scored by the following learning rubric. (provide attachment)	Results are examined to determine if the outcome is achieved. Include planned or actual assessment date. **(results & evaluation)**	Recommendations to improve teaching and learning. **(modifications)**
(LECTURE) 1. correctly apply the scientific method to solve a problem.	1. students, after examining a fictitious biological phenomena, will answer questions related to their problem-solving technique. EXPECTED OUTCOME: At least 70% of students will demonstrate at least 80% proficiency.		Spring 2010	
(LAB) 2. Describe the importance of organ interrelatedness and the relationship to laboratory skills and theoretical advancement. SLO REVIEWED 3/10/10 GY	2. Create and design a laboratory experiment that interrelates at least two of the major organ systems. Including, objectives, introduction, protocol report, lab exercises and questions.	2. Rubric attached	Fall 2010	

Essential Academic Skills: Reading and Communication

2. REQUIRED TEXTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Principles of Human Physiology 3rd edition Stanfield and Germann 2009; Integrate, Introduction to Human Physiology Pearson 2009

3. READING ASSIGNMENTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Study Guide; Health Section of the Los Angeles Times; Additional reading material as related to course material.

4. WRITING ASSIGNMENTS:

Writing assignments, as required by Title 5, in this course may include, but are not limited to the following:

Laboratory Reports, Take-Home Problems Assigned From Lecture, In-Class Exams.

Essential Academic Skills: Critical Thinking and Other Course Components

5. REPRESENTATIVE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

Provide examples of assignments, as required by Title 5, that demonstrate critical thinking.

1) Analysis in laboratory of 5 different simulated urine samples each of which represents a certain distinct type of clinical condition. The students must match each urine sample with a condition commensurate with the urine sample's clinical symptom and then explain how the condition leads to the clinical symptoms. 2) After gathering laboratory data on lung volumes in the stand and reclining position the students must use the results and their knowledge of how the mechanics of ventilation work to explain how Fowler's position assists lung ventilation in patients confined to a bed.

6. SELF-REFLECTIVE LEARNING:

If applicable, describe how students will reflect on their development as active learners. Provide representative examples below.

NA

7. COMPUTER COMPENTENCY:

If applicable, explain how computer competency is included in the course.

Students will use computers for word processing and search for databases needed for reports.

8. INFORMATION COMPENTENCY:

If applicable, explain how information competency is included in the course.

Students are required to research and write a term paper in a disease of their choice and are strongly encouraged to visit local university libraries and to access the Internet for sources. Students may also be required to do an oral presentation of a current physiological topic.

Evaluation and Instruction

9. REPRESENTATIVE OUTSIDE ASSIGNMENTS (HOMEWORK):

Out of class assignments (Homework) may include, but are not limited to the following:

1) Describing the functions of each of the main types of white blood cells. 2) After performing and collecting data from a breath holding assignment performed at home the student will use the results to explain in writing the role of carbon dioxide in stimulating the urge to breathe. Students may also be required prepare and oral presentation of a current physiological topic.

10. METHODS OF EVALUATION:

Title 5, section 55002 requires grades to be 'based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students.' Methods of evaluation may include, but are not limited to the following (please note that evaluation should measure the outcomes detailed 'Course Objectives' at the beginning of Section II):

Multiple Choice Take-Home Practice Exams; Short Essay Answers to Laboratory Problems and Questions, Fill-In and Short Answer In-Class Exams. Take-Home and exam essays.

11. METHODS OF INSTRUCTION:

Please Check All That Apply

- [x] **Discussion**
- [x] **Activity**
- [ ] **Field Experience**
- [ ] **Independent Study**
- [ ] **Purposeful Collaboration**
- [ ] **Other (Please Explain)**

12. SUPPLIES:

List the supplies the student must provide.

Students must have paper, blue book and Scan-Tron answer sheets for quizzes, exams and assignments.

13. DIVERSITY:

If applicable, explain how diversity (e.g., cultural, gender, etc.) is included in the course.

NA

14. SCANS COMPETENCIES:

(required for all courses with vocational TOP Codes; recommended for all courses)

SCANS (Secretary's Commission on Necessary Skills) are skills the Department of Labor identified, in consultation with business and industry leaders, which reflect the skills necessary for success in the workplace. Check the appropriate boxes to indicate the areas where students will develop the following skills (please note that all SCANS competencies do not apply to all courses):

RESOURCES

☑ **Managing Time:** Selecting relevant goal-related activities, ranking them in order of importance, allocating time to activities, and understanding, preparing and following schedules.

☐ **Managing Money:** Using or preparing budgets, including making cost and revenue forecasts; keeping detailed records to track budget performance, and making appropriate adjustments.

☑ **Managing Material and Facility Resources:** Acquiring, storing, allocating, and distributing materials, supplies, parts, equipment, space or final products in order to make the best use of them.

INTERPERSONAL

☑ **Participating as Member of a Team:** Working cooperatively with others and contributing to group's efforts with ideas, suggestions and effort.

☐ **Teaching Others New Skills:** Helping others learn needed knowledge and skills.

☑ **Exercising Leadership:** Communicating thoughts, feelings, and ideas to justify a position, encouraging, persuading, convincing or otherwise motivating an individual or group, including responsibly challenging existing procedures, policies or authority.

☑ **Negotiating:** Working toward agreement that may involve exchanging specific resources or resolving divergent interests.

☑ **Working with Cultural Diversity:** Working well with men and women and with people from a variety of ethnic, social, or educational backgrounds.

INFORMATION

☑ **Acquiring and Evaluating Information:** Identifying a need for data, obtaining the data from existing sources or creating them, and evaluating their relevance and accuracy.

☑ **Organizing and Maintaining Information:** Organizing, processing and maintaining written or computerized records and other forms of information in a systematic fashion.

☑ **Interpreting and Communicating Information:** Selecting and analyzing information and communicating the results of others, using oral, written, graphic, pictorial, or multimedia methods.

☑ **Using Computers to Process Information:** Employing computers to acquire, organize, analyze and communicate information.

SYSTEMS

☐ **Understanding Systems:** Knowing how social, organizational and technological systems work and operating effectively with them.

☐ **Monitoring and Correcting Performance:** Distinguishing trends, predicting impacts of actions on system operations, diagnosing deviations in the functioning of a system/organization, and taking necessary steps to correct performance.

☐ **Improving or Designs Systems:** Making suggestions to modify existing systems in order to improve the quality of products or services and developing new or alternative systems.

TECHNOLOGY

☐ **Selecting Technology:** Judging which sets of procedures, tools or machines, including computers and their programs, will produce the desired results.

☑ **Applying Technology to Tasks:** Understanding overall intent and proper procedures for setting up and operating machines, including computers and their reprogramming systems.

☐ **Maintaining and Troubleshooting Equipment:** Preventing, identifying, or solving problems with equipment, including computers and other technologies.

Section III: RELATIONSHIP TO COLLEGE PROGRAMS

1. THIS COURSE WILL BE AN APPROVED REQUIREMENT FOR AN APPROVED ASSOCIATE DEGREE OR CERTIFICATE PROGRAM: Yes

a. If yes, the course will be a requirement portion of the 'approved program' listed on the State Chancellor's Inventory of Approved Programs (approved programs can be found on the State Chancellor's Office website at https://misweb.cccco.edu/webproginv/prod/invmenu.htm)

Liberal Arts: Natural Sciences AA - Program: 490104 State ID: 19064
Nursing - R.N. AS - Program: 123010 State ID: 02877

2. GENERAL EDUCATION REQUIREMENTS FOR THE ASSOCIATE DEGREE STATUS:

a. Area Requested: A. Natural Science

Approval Date:

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas - Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education -- contained in Board Rule 6201.14 -General Education Requirements. http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

b. Area Requested: None

Approval Date:

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas - Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education -- contained in Board Rule 6201.14 -General Education Requirements. http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

Section IV: ARTICULATION INFORMATION

(Complete in consultation with College Articulation Officer)

1. TRANSFER STATUS:

a. **Transferable to the University of California: Yes**	c. **Transferable to the California State University: Yes**
b. **UC Approval Date: Before 2000**	d. **College Approval Date: Before 2000**

2. GENERAL EDUCATION FOR TRANSFER:

IGETC Certification	*CSU Certification*
a. **Area Requested: 5B : Biological Science** b. **Date Requested:** c. **IGETC Approval Date: Before 2000** If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.	a. **Area Requested: B2 : Biological Science** b. **Date Requested:** c. **CSU Approval Date: Before 2000** If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.
a. **2nd Area Requested: None** b. **Date Requested:** c. **IGETC Approval Date:** If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.	a. **2nd Area Requested: B3 : Laboratory Activity** b. **Date Requested:** c. **CSU Approval Date:** If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.

3. MAJOR REQUIREMENT FOR TRANSFER:

Will this course be articulated to meet lower division major requirements?:

List college/university and the majors:

CAN NUMBER: **CAN SEQUENCE #:**

CAN Approval -

Date requested: Date approved:

Section V: SUPPLEMENTAL COURSE INFORMATION

1. DEPT/DIVISION NAME: Natural Sciences, Health and Physical Ed

2. DEPT/DIVISION CODE: 07

3. SUBJECT CODE: 753

4. SUBJECT ABBREVIATION: PHYSIOL

5. RECOMMENDED MINIMUM QUALIFICATION AREA:

6. ABBREVIATION FOR TRANSCRIPTS: INTRO TO HUMAN PHYS

7. DEGREE CREDIT:

Indicate whether the course meet the 'standards for approval' for degree credit course set forth in Title 5, section 55002(a)(2), which requires the course to have a degree of intensity, difficulty, and vocabulary that the curriculum committee has determined to be at the college level: **Degree Applicable**

8. GRADING METHOD: LETTER GRADE

9. REPETITIONS: # of times repeated for credit: **0**

If this course is repeatable, explain how repetition of this course meets Title 5, section 55041(c)(2)(B):

10. PRIOR TO TRANSFERABLE LEVEL:

This course attribute applies to ***English, Writing, ESL, reading and mathematics*** courses ONLY. If applicable, indicate how many levels below the transferable level this course should be placed: **Not applicable**

11. CREDIT BASIC SKILLS:

Title 5, section 55000(j) defines basic skills as 'courses in reading, writing, computation, and English as a Second Language, which are designated as non-degree credit courses pursuant to Title 5, section 55002(b).': **No**

12. CROSS REFERENCE:

Is this course listed as equivalent in content to existing College/District courses in another discipline?: **No**

If Yes, list courses (documentation of cross-discipline agreement must be provided):

13. COURSE SPECIFICALLY DESIGNED FOR STUDENTS W/ DISABILITIES:

Title 5, section 56029 allows a course to be repeatable when continuing success of the students with disabilities is dependent on additional repetitions of a specific class. Is this course designated as an 'approved special class' for students with disabilities?: **No**

If yes, provide an explanation of how this course meets the requirements of Title 5, section 56029:

14. COOPERATIVE EDUCATION STATUS:

Title 5, section 55252 allows for two types of Cooperative Education: 1) General Work Experience Education -- i.e., supervised employment, which is intended to assist students in acquiring desirable work habits, attitudes and career awareness, which need not be related to the students' educational goals; or 2) Occupational Work Experience Education -- i.e., supervised employment, extending classroom based occupational learning at an on-the-job learning station, which is related to the students' educational or occupational goal. Is this course part of the college's approved cooperative work experience education program?: **No**

15. COURSE CLASSIFICATION: Liberal Arts and Sciences

Note: A course Classification, TOP Code and SAM code must be aligned e.g., Courses with an 'Occupational' Course Classification must have an 'Occupational' TOP Code and a SAM Code of A, B, C, or D; courses that do not have an 'Occupational' Course Classification cannot have an Occupational TOP Code and must have an 'E' SAM Code. Courses coded as 'basic skills' in #11 should be coded 'Adult and Secondary Basic Skills.'

16. TOP CODE - (6 digits XXXX.XX)**: 0410.00**

Course content should match discipline description in Taxonomy of Programs found at http://ecd.laccd.edu/TaxonomyOfPrograms.doccurriculum.htm

17. SAM CODE (**S**tudent **A**ccountability **M**odel)**: E**

18. FUNDING AGENCY CODE:

19. STATE COURSE ID:

Section VI: APPROVAL STATUS

1. APPROVAL STATUS:

		Approval Date Of	Board Date	Requested Effective Semester	Approved Effective Semester
a.	☐ **New Course**	**College:**	Board:	Effective Semester:	Effective Semester:
b.	☐ **Addition of Existing District Course**	**College:**	Board:	Effective Semester:	Effective Semester:
c.	☐ **Course Change***	**College:**		Effective Semester:	Effective Semester:
d.	☑ **Outline Update**	**College: 3/16/10**			Effective Semester:
e.	☐ **New Course**	**College:**		Effective Semester:	Effective Semester:
f.	☐ **New Course**	**College:**	Board:	Effective Semester:	Effective Semester:

* Changes to a course require the completion of a 'Course Change Request' form and approval by the college's Curriculum Committee.
In some cases districtwide approval is also required; see, Administrative Regulation E-65, section 3(c) for details.

Section VII: APPROVAL INFORMATION FOR NEW OR ADDED COURSES

(complete in consultation with Department Chair and the appropriate Academic Administrator)

1. ORIGINATOR: Roberts, Todd J.

2. DEPARTMENT: 07

3. IF THIS IS A NEW COURSE, INDICATE HOW THE COLLEGE PLANS TO MEET THE EXPENSE OF THIS COURSE:

☐ By additional funds. Describe:

☐ By deleting courses from the college catalog and course database. List specific courses to be deleted:

☐ By deleting sections of existing course. List courses and number of sections to be deleted:

FIRST YEAR: SECOND YEAR: THIRD YEAR:

☐ By rotating sections of existing courses. List courses and number of sections to be rotated, as well as the semesters in which they will be offered:

4. IMPACT

IMPACT -- Will this course directly impact other course offerings and/or associate degree or certificate programs on campus? No (If yes, briefly explain how)

5. METHOD OF SUPPORT

-- Indicate how the college plans to support the proposed course:

A. Additional staff -- List additional staff needed:

B. Classroom -- List classroom type needed:

Lecture room for 30-60 and laboratory for 30.

C. Equipment -- List new equipment needed and indicate funding source for any new equipment:

No new equipment required at this time.

D. Supplies- List supplies and indicate dollar value:

Supplies cost about $1,200 per laboratory section.

E. Library/Learning Resources- The course initiator shall consult with the College Librarian and review the college library,

book, periodical, and electronic resource collections relevant to this course. List additional titles and resources to be considered for purchase as funding permits:

CERTIFICATION AND RECOMMENDATION

☑ This course meets Title 5 requirements for Associate Degree applicable college credit towards an Associate Degree.

☐ This course meets Title 5 requirements but does not satisfy the requirements for an Associate Degree applicable course.

We certify that the information and answers above properly represent this course.

Originator	Date
Department/Cluster Chairperson	Date
Articulation Officer	Date
Librarian	Date
Dean (if applicable)	Date
Curriculum Committee Chairperson	Date
Academic Senate President	Date
Vice President, Academic Affairs	Date

Section VIII: ADDENDA

(Uploaded Documents)

Prerequisite Document	**Content Review for Physiology 1**	**ContentReviewPhysiology1.doc**
SLO Rubric	**Lab Report Rubric**	**LabReportRubric.doc**

CONTENT REVIEW FOR PREREQUISITE VALIDATION

Target Course Title and Number: **Physiology 1, Introduction to Human Physiology**
(Course to which pre/corequisite applies)

Check Applicable Box

☒ **Prerequisite: Biology 3, Introduction to Biology**

☐ Corequisite:

☐ Advisory:

A. **Target Course Entry Skills**

(For prerequisites/corequisites, list specific skills and/or knowledge necessary for students to succeed in the target class. For advisories, list skills/knowledge which will enrich or deepen the student's knowledge obtained from the course but without which the student may still succeed in the course. Attach additional sheet if necessary. NUMBER EACH SKILL.)

1. Identify and describe the functions of cellular organelles.
2. Recognize terminology, basic facts, experimental paradigms and general principles associated with the biological system.
3. Use basic biological concepts to interpret laboratory observations.
4. Locate and identify basic cellular components utilizing microscopic techniques.

B. **Exit Skills Provided By Prerequisite/Corequisite/Advisory Course or Assessment: BIOLOGY 3**

(List specific skills and/or knowledge that are the outcome of the prerequisite/corequisite/advisory course or assessment. For courses already in the curriculum, these should be present in the course objectives in the course outline. Attach additional sheet if necessary. NUMBER EACH SKILL.)

1. Discuss the scientific method, including identification of dependent, independent, and standardized variables, and the role of a control group.
2. Examine the theory of evolution by means of natural selection, and evidence across biological disciplines.
3. Categorize the properties that distinguish living and non-living things.
4. Describe the structure of atoms and the rules underlying the formation and movement of molecules.
5. Illustrate and compare the structure and function of major biological molecules: carbohydrates, lipids, proteins, and nucleic acids.
6. Examine cell structure and function.
7. Analyze the role of enzymes in the control of chemical reactions in organisms.
8. Distinguish the energy interrelationships and the role of ATP in energy transformations.
9. Compare the similarities and differences between cellular respiration and photosynthesis in the regulation of energy transformations
10. Explain the cellular basis of asexual and sexual reproduction, including embryonic development.
11. Identify simple Mendelian patterns of inheritance and the use of Punnett squares in the analysis of monohybrid and dihybrid crosses.

12. Discuss the modern concept of a gene and information transfer, including the processes of transcription and translation.
13. Assess current ecological conditions of the earth and recognize the effect humans have on the environment.

CONTENT REVIEW SKILLS MATRIX FOR PREREQUISITE VALIDATION

PHYSIOLOGY 1
Entering Skills of Target Course

BIOLOGY 3
Introduction to Biology
Exit Skills provided by Prerequisite Course

	1	**2**	**3**	**4**	5	6	7	8	9
1		X	X						
2		X	X						
3		X	X						
4			X						
5			X						
6	X		X	X					
7			X						
8			X						
9			X						
10			X						
11			X						
12			X						
13									

Comments:

Validation requires at least one match of each entry skill with any exit skill(s).
Was validation achieved? YES

PARTICIPANTS IN CONTENT REVIEW:
(Signatories should include instructors for both exit and entering skills courses.)

Name: _____ Title: _____ Initial: _____ Date: _____

Name: _____ Title: _____ Initial: _____ Date: _____

Name: _____ Title: _____ Initial: _____ Date: _____

CERTIFIED BY:

_____
Initiator Date

_____
Department Chairperson Date

_____
Curriculum Committee Chairperson Date

CONTENT REVIEW FOR PREREQUISITE VALIDATION

Target Course Title and Number: Physiology 1, Introduction to Human Physiology
(Course to which pre/corequisite applies)

Check Applicable Box	
	☒ **Prerequisite: Biology 5, Introduction to Human Biology**
	☐ Corequisite:
	☐ Advisory:

A. **Target Course Entry Skills**
(For prerequisites/corequisites, list specific skills and/or knowledge necessary for students to succeed in the target class. For advisories, list skills/knowledge which will enrich or deepen the student's knowledge obtained from the course but without which the student may still succeed in the course. Attach additional sheet if necessary. NUMBER EACH SKILL.)

1. Identify and describe the functions of cellular organelles.
2. Recognize terminology, basic facts, experimental paradigms and general principles associated with the biological system.
3. Use basic biological concepts to interpret laboratory observations.
4. Locate and identify basic cellular components utilizing microscopic techniques.

B. **Exit Skills Provided By Prerequisite/Corequisite/Advisory Course or Assessment: BIOLOGY 5**
(List specific skills and/or knowledge that are the outcome of the prerequisite/corequisite/advisory course or assessment. For courses already in the curriculum, these should be present in the course objectives in the course outline. Attach additional sheet if necessary. NUMBER EACH SKILL.)

1. Describe the scientific method and after reading articles in professional journals, determine the quality of the reported research.
2. Compare cellular and genetic processes across the 5 Kingdoms of living organisms.
3. Identify basic human structures, describe their functions and discuss the evolution of the human body.
4. Describe the disease process and how the human immune system fights off these processes.
5. Describe the interrelationships between humans, other forms of life and the physical environment.
6. Apply the general concepts from the textbook or other references to the specific principles which are demonstrated by the laboratory exercises and show this in the written reports.

CONTENT REVIEW SKILLS MATRIX FOR PREREQUISITE VALIDATION

PHYSIOLOGY 1

Entering Skills of Target Course

BIOLOGY 5
Introduction to Human Biology
Exit Skills provided by Prerequisite Course

	1	2	3	4	5	6	7	8	9
1		X							
2	**X**		X	X					
3			X	X					
4			X						
5		X	X						
6		X	X						

Comments:

(Include justification for assessments, health and safety, or non-course prerequisites)

Validation requires at least one match of each entry skill with any exit skill(s).
Was validation achieved? YES

PARTICIPANTS IN CONTENT REVIEW:
(Signatories should include instructors for both exit and entering skills courses.)

Name: _____ Title: _____ Initial: _____ Date: _____

Name: _____ Title: _____ Initial: _____ Date: _____

CERTIFIED BY:

_____
Initiator Date

_____
Department Chairperson Date

_____
Curriculum Committee Chairperson Date

LAB REPORT RUBRIC

CATEGORY	4	3	2	1	POINTS
Components of the report	All required procedures are present and additional elements that add to the report (e.g., thoughtful comments, graphics) have been added.	All required elements are present.	One required element is missing, but additional elements that add to the report (e.g., thoughtful comments, graphics) have been added.	Several required elements are missing.	
Objectives & Outcome	The purpose/outcome of the lab or the question to be answered during the lab is clearly identified and stated.	The purpose/results of the lab or the question to be answered during the lab is identified, but is stated in a somewhat unclear manner.	The purpose/results of the lab or the question to be answered during the lab is partially identified, and is stated in a somewhat unclear manner.	The purpose/results of the lab or the question to be answered during the lab is erroneous or irrelevant.	
Background Sources (optional)	Several reputable background sources were used and cited correctly. Material is translated into student's own words.	A few reputable background sources are used and cited correctly. Material is translated into student's own words.	A few background sources are used and cited correctly, but some are not reputable sources. Material is translated into student's own words.	Material is directly copied rather than put into students own words and/or background sources are cited incorrectly.	
Materials & Methodology	All materials and setup used in the experiment are clearly and accurately described.	Almost all materials and the set up used in the experiment are clearly and accurately described.	Most of the materials and the setup used in the experiment are accurately described.	Many materials are described inaccurately OR are not described at all.	
Conclusion	Conclusion includes whether the findings supported the hypothesis, possible sources of error, and what was learned from the experiment.	Conclusion includes whether the findings supported the hypothesis and what was learned from the experiment.	Conclusion includes what was learned from the experiment.	No conclusion was included in the report OR shows little effort and reflection.	
				TOTAL	