

APPLIED HUMAN PHYSIOLOGY WITH LAB

APK 2105c ~ 4 CREDITS ~ FALL 2017

INSTRUCTOR:

Linda Nguyen, Ph.D.

Office: FLG 144

Office Phone: 352-294-1723

Email: linda.nguyen@hnp.ufl.edu Preferred: CANVAS email

OFFICE HOURS:

Office hours will be posted in CANVAS and students may request meetings by appointment via CANVAS email.

COURSE WEBSITE:

<https://lss.at.ufl.edu/>

LECTURE TIME/LOCATION: MWF 2 (8:30-9:20am) WEIL 270

LAB TIME/LOCATION:

SECTION	LAB DAY & TIME	LAB LOCATION
2103	M Period 4-5 (10:40am-12:35pm)	FLG 107D
2105	T Period 2-3 (8:30am-10:25pm)	FLG 107D
2106	T Period 6-7 (12:50am-2:45pm)	FLG 107D
5098	R Period 2-3 (8:30am-10:25pm)	FLG 107D
8048	T Period 4-5 (10:40am-12:35pm)	FLG 107D
8069	R Period 4-5 (10:40am-12:35pm)	FLG 107D
8071	M Period 6-7 (12:50am-2:45pm)	FLG 107D

COURSE FORMAT: Students will attend live lectures three times each week (MWF 2) and live lab once each week (2 period-block...see table above). Students should read required textbook pages and print out or download PDF lecture slides before coming to lecture or lab.

COURSE DESCRIPTION: This physiology course will introduce students to the functions of the human body at the cellular, tissue, organ, systemic, and organismal levels with heavy emphasis on mechanisms of action.

PREREQUISITE KNOWLEDGE AND SKILLS: There are no prerequisites for this course; however, any previous experiences in the following areas will be helpful to students: medical terminology, anatomy, physics, chemistry, and/or biology. To be clear: you do not need to have taken any of these courses to be successful in this course.

GENERAL EDUCATION SUBJECT AREA OBJECTIVES: Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society,

science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically-testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

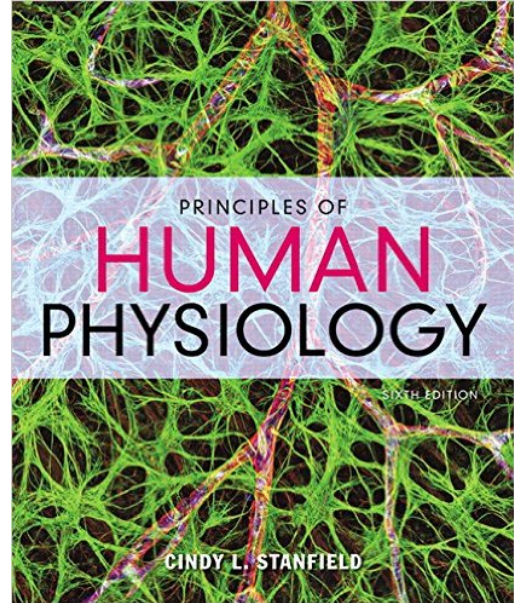
COURSE GOALS: The following table describes the UF General Education student learning outcomes (SLOs) and the specific course goals for APK 2105c. By the end of this course, students should be able to:

Gen Ed SLOs	APK 2105c Course Goals	Assessment Method
Content: Demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.	<ul style="list-style-type: none"> Describe the basic structures as well as the basic and more complex functions of the cell, the endocrine, nervous, muscular, cardiovascular, respiratory, and renal systems Name and give examples of key physiological themes and basic regulatory mechanisms for sustaining life/health (e.g. homeostasis, negative and positive feedback) Explain how major systems of the body are integrated and how these interactions influence homeostasis 	<ul style="list-style-type: none"> Weekly lab quizzes Lecture exams Online homework Online lab modules
Communication: Communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.	<ul style="list-style-type: none"> Use correct anatomical, physiological, scientific, and medical terminology to describe and explain physiological phenomena, experiments used to study such phenomena, and how disease or injury impacts those processes 	<ul style="list-style-type: none"> Lab reports (rubric and policies outlined in grading section)
Critical Thinking: Analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.	<ul style="list-style-type: none"> Predict how perturbations (e.g., disease, experimental manipulations) will alter physiological function and identify the mechanisms of action involved Generate and interpret various graphical representations and results of physiological data 	<ul style="list-style-type: none"> Weekly lab quizzes Lecture exams Online lab modules Lab reports

REQUIRED COURSE MATERIALS/TEXT: For this course, students will need access to two resources: (1) the textbook, and (2) MasteringA&P website (where homework and lab modules will be completed). Students have options regarding how to gain access to these required course materials.

Textbook: Principles of Human Physiology by Cindy L. Stanfield, 6th edition. Pearson.

Option A (recommended especially to students with financial aid issues): Students will have the choice to use UF's All Access program. Once classes begin, students can "Opt-In" to MasteringA&P access through a link provided in CANVAS for a reduced price and pay for these materials through their UF student account. This option gives students access to an e-version of the textbook AND access to MasteringA&P. To do this, log into your CANVAS account and navigate to the APK 2105c course homepage. On the left-hand side of the window, select My Lab and Mastering—then follow the prompts accordingly.



Option B: Students who do not choose to participate in UF's All Access program can purchase a standalone MasteringA&P access code through the UF Bookstore. There will also be a discounted, loose-leaf print version of the textbook available at the UF Bookstore for students who would like an additional printed resource for the course.

COURSE POLICIES:

ATTENDANCE POLICY: LECTURE: Try your best to attend all lectures. Although attendance is not required, it is ABSOLUTELY imperative for your success in this course. Students who have planned travel during this course are encouraged to register for a different semester if more than one day of class will be missed. LAB: Attendance will be taken in lab. Attend the lab section for which you are enrolled. If you have to miss your lab for any reason, please make arrangements with your TA to attend another lab section that week. You must also fill out a lab make-up form (posted in CANVAS) and have the TA of the lab section you attended instead of your own sign it and return it to your TA. More than one un-made-up lab will result in a partial letter grade penalty. For example, if you earned a B+ in the course, but missed two labs that were not made-up by attending another section, you would receive a B in the course. Participation points cannot be made-up unless the absence to lab was excused. The following are not excuses for missing lab: work, volunteer position, vacation.

PERSONAL CONDUCT POLICY: Students are expected to exhibit behaviors that reflect highly upon themselves and our University:

- Read and refer to the syllabus
- Arrive to lecture and lab on time (*a few minutes early*)

- Show respect for the authority of the course instructor and graduate TAs through politeness and use of proper titles (e.g., “Dr. Nguyen”)
- Use of professional, courteous standards for all emails and discussions:
 - Descriptive subject line
 - Address the reader using proper title and name spelling
 - Body of the email should be concise but have sufficient detail
 - Give a respectful salutation (e.g., thank you, sincerely, respectfully)
 - No textspeak (e.g., OMG, WTH, IMO)
- No texting or checking Face Book (or the like) during class/lab instruction time
- No personal conversations during class/lab instruction time
- Adherence to the UF Student Honor Code:
 - <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>
 - Honor code violations of any kind will not be tolerated and sanctions will be determined by the course instructor for first-time violators
 - Any use, access, or handling of technology during an exam will result in a zero on the exam **and** potential failure of the course
 - All allegations will be reported to the Dean of Students Office

EXAM MAKE-UP POLICY: Make-up exams will be given at the discretion of the instructor. To schedule a make-up exam, please fill out the **make-up exam request form** posted in CANVAS and submit it to your course instructor. Documentation will be required. Unexcused missed exams will result in a zero on the exam (this includes contacting the instructor **after** the exam if you are ill). **You are absolutely not permitted a make-up exam for work, volunteer position or personal travel/vacations, so please make your travel arrangements accordingly.** If you have a serious emergency or life event, please contact the Dean of Students Office (www.dso.ufl.edu) and they will contact your instructor so that you do not have to provide documentation of the emergency/death in order to get a make-up exam. Requirements for class attendance and make-up exams, assignments, and other work are consistent with the university policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

GRADING:

The following table outlines the point-accruing components of the course. To calculate the final grade, total points earned in the course will be summed and divided by 615.

Evaluation Components	Points Possible (out of 615)	% of Total Grade
Lecture Exams (4)	50 pts X 4 exams = 200 pts	200 / 615 = 33%
Lab Quizzes (10)	6 pts X 10 quizzes = 60 pts	60 / 615 = 10%
Lab Modules (7)	10 pts X 7 modules = 70 pts	70 / 615 = 11%
Lab Participation (13)	5 pts X 13 labs = 65 pts	65 / 615 = 10%
Lab Reports (6)	10 pts X 6 reports = 60 pts	60/615 = 10%
Homework (4)	40 pts X 4 assignments = 160 pts	160 / 615 = 26%

Lecture Exams – Each exam will consist of 50 questions. Questions will be multiple choice and true/false format. Students are not permitted access to any kind of materials or notes during these exams. Exam questions are generated by the course instructor and the majority of focus should be given to the lecture notes when studying. Students will take exams in the same room where lectures are given and will be allowed 50 minutes to complete the exam.

Homework – Homework assignments can be accessed through Mastering A&P on CANVAS. Homework problems are multiple choice, true/false, fill in the blank, and some matching. These questions are specific to the textbook, so that should be your primary resource for answering those questions. These assignments are NOT intended to be used as the primary study tool for preparing for the exams. The function of the homework assignments is to (a) get students more familiar with the textbook, and (b) to get students eased into answering physiology questions. Most of these questions are very straight forward and are less challenging than the lecture exams.

The following are specific homework grading guidelines to keep in mind:

- You may open/close an assignment as many times as you wish until it is due.
- For the fill in the blank questions, spelling and proper tense/plurality of the word counts. For example, if a question asked for the name of the cells which carry oxygen, the correct response would be erythrocytes (plural).
- For multiple choice and fill-in-the-blank questions, you are penalized 50% if you miss on the first attempt and 100% if you miss on the second attempt. For true/false questions, you are penalized 100% if you miss on the first attempt.
- You are penalized a small fraction for opening a hint if one is available.
- *Late submissions of homework will not be accepted.* However, if you complete some of the questions, but fail to complete all questions prior to the deadline, those completed will be automatically submitted at the due date/time and added to the gradebook.

Lab Quizzes – Each lab quiz will consist of multiple choice, true/false, fill in the blank, matching, and labeling. Lab quizzes will cover material learned in the PhysioEx lab modules and/or lab experiments. The following rubric will be employed to assess responses to short answer questions only. *Students who fail to reach the satisfactory level of achievement according to this rubric will be asked to submit a one-page written report on a related physiological topic for re-assessment, due at the next lab meeting. Students who do not submit a re-assessment following an unsatisfactory rating will earn a zero on the lab assessment that week.*

Lab Modules – Each lab module is a PhysioEx lab that can be accessed through MasteringA&P through CANVAS. PhysioEx Labs will close Friday at 11:59pm the week a PhysioEx lab is due. You have 6 hours to complete each lab module and accompanying questions; however, these should not take longer than 2 hours each. If you miss the submission deadline, you will not be allowed to complete the lab for credit. Once you open the lab, you can close it and return to

complete it, but the timer will not stop...so please plan to complete the lab module and questions in one setting to avoid being timed out.

Lab Reports – Lab reports will be submitted for each experimental lab and MUST be written **individually**. All lab reports must physically be handed in to your TA due during the following week's lab at the **beginning** of the lab period. *All students are to adhere to the University of Florida Honor Code and any instances of plagiarism or academic integrity violations will be reported to the Dean of Students Office for consideration of disciplinary action.* In addition, any students caught plagiarizing will receive in a zero on the lab report. Lab reports are required to include the following sections:

- Purpose of the lab experiment
- Hypothesis of the lab experiment
- Brief summary of the experiment conducted
- Results
- Interpretation and analysis of the results (i.e. did the results match the hypothesis, why or why not?)
- Final conclusions

The following rubric will be employed to assess lab reports. *Students who fail to reach the satisfactory level of achievement according to this rubric will be asked to submit a one-page written report on a related physiological topic for re-assessment, due at the next lab meeting. Students who do not submit a re-assessment following an unsatisfactory rating will earn a zero on the lab report that week.*

Unsatisfactory (U) Does Not Meet Minimum Expectations (≤ 6pts)	Satisfactory (S) Meets Minimum Expectations (7-8 pts)	Excellent (E) Exceeds Expectations (9-10 pts)
<ul style="list-style-type: none"> • Incomplete sentences • Excessive grammatical errors, including spelling (≥3) • Some of the required sections are not included • Answers demonstrates lack of understanding 	<ul style="list-style-type: none"> • Complete sentences • Few grammatical errors, including spelling (<3) • All required sections are included • Answer demonstrates <u>basic</u> understanding • Mostly correct use of scientific/medical terminology 	<ul style="list-style-type: none"> • Complete sentences • Little to no grammatical errors, including spelling (≤1) • All required sections are included • Answer demonstrates a more <u>comprehensive</u> understanding • Correct use of scientific/medical terminology

Lab Participation – The following rubric will be employed to assess lab participation. TAs are responsible for assigning participation points. Students are encouraged to strive for full participation and enthusiasm in all labs so that the maximal amount of points are CLEARLY earned.

1 pt	3 pts	5 pts
<ul style="list-style-type: none"> Physically present 	<ul style="list-style-type: none"> Physically present On time to lab Actively engaged in discussion/ grp. activity Participates in labs, but with some reluctance Does not appear to have prepared for class ahead of time 	<ul style="list-style-type: none"> Physically present On time to lab Actively engaged in discussion/grp. activity Participates in labs with enthusiasm Contributes to the learning environment through: positive attitude, thoughtful questions, respectful behavior, coming to class prepared

Lab Extra Credit – Students may receive 2 extra credit points if they choose to volunteer as subject or technician during a lab experiment. Students are allowed to only volunteer once during the semester to allow equal opportunity for all students.

GRADING SCALE: All grades will be posted directly into the CANVAS gradebook. Any discrepancies with points displayed in gradebook should be pointed out to the instructor before the last day of class. **There is no curve for this course and final grades will not be rounded up.** See the UF undergraduate catalog web page for information regarding current UF grading policies: www.registrar.ufl.edu/catalog/policies/regulationgrades. *Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e., asking for preferential treatment) and will be handled accordingly.*

Minus grades are not assigned for this course. A minimum grade of C is required for all General Education courses, such as this one.

Letter Grade	Points Needed to Earn Each Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	553.5-615.0	90.00-100%	4.0
B+	535.05-553.49	87.00-89.99%	3.33
B	492.00-535.04	80.00-86.99%	3.0
C+	473.55-491.99	77.00-79.99%	2.33
C	430.5-473.54	70.00-76.99%	2.0
D+	412.05-430.49	67.00-69.99%	1.33
D	369.00-412.04	60.00-66.99%	1.0
E	0-368.99	0-59.99%	0

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

Students registered with the DRC: I strongly recommend that you submit all of your lecture exam requests through the DRC in the first week of classes to ensure that they are approved in time.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>.

UNIVERSITY POLICY ON COURSE EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open.

GETTING HELP:

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling &

Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,

www.counseling.ufl.edu/cwc/

- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Training Programs
- Community Provider Database

Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Computing Help Desk, First Floor HUB, helpdesk.ufl.edu, (352) 392-HELP

Library Help Desk, <http://guides.uflib.ufl.edu/content.php?pid=86973&sid=686381>

TENTATIVE COURSE SCHEDULE:

Any changes to this schedule will be posted in CANVAS as an announcement.

	Day - Date	Lecture (Textbook Chapter: Pages)	Lab Activities/Assessments (due dates)
Week 1	M- Aug. 21	Syllabus; Intro to Physiology (1:1-12)	No lab
	W- Aug. 23	Cell Structure & Function (2: 18-50)	
	F- Aug. 25	Cell Structure & Function	
Week 2	M- Aug. 28	Cell Metabolism (3: 56-87)	Lab 1 – Intro to Lab/Graphs/Reports (2hrs)
	W- Aug.30	Cell Metabolism	
	F – Sept. 1	Cell Metabolism	
Week 3	M – Sept. 4	Holiday- No class	Lab 2 –Transport Mechanisms Quiz 1 <i>Complete PhysioEx 1 on your own</i> Lab Report for Lab 1 due <i>Mon. labs attend a different section</i>
	W– Sept. 6	Cell Metabolism	
	F – Sept. 8	Cell Membrane Transport (4: 93-120)	
Week 4	M- Sept.11	Exam 1 – Chapters 1, 2, and 3 HW 1 due Sun. Sept. 10 at 11:59pm	Lab 3 – Enzyme Kinetics (2hrs) Quiz 2
	W- Sept. 13	Cell Membrane Transport	
	F- Sept.15	Chemical Messengers (5: 124-145)	
Week 5	M- Sept. 18	Chemical Messengers	Lab 4 – Endocrine Phys Quiz 3 <i>Complete PhysioEx 4 on your own</i> Lab Report for Lab 3 due
	W- Sept. 20	Chemical Messengers	
	F – Sept. 22	Endocrine System (6: 149-162)	

Week 6	M – Sept. 25	Endocrine System	Lab 5 – Metabolism (2hrs) Quiz 4
	W– Sept. 27	Endocrine System	
	F- Sept. 29	Neural Signaling (7: 166-193)	
Week 7	M- Oct. 2	Neural Signaling	No Lab <i>Recommend getting started on either PhysioEx 2 or 3 this week</i>
	W- Oct. 4	Neural Signaling	
	F- Oct. 6	Holiday- No class	
Week 8	M- Oct. 9	Neural Integration (8: 196-209)	Lab 6&7 – Neurophys and Muscle Phys. Quiz 5 <i>Complete PhysioEx 2&3 on your own</i> Lab Report for Lab 5 due
	W- Oct. 11	Neural Integration	
	F- Oct. 13	Exam 2 – Chapters 4, 5, 6, 7, and 8 HW 2 due Thurs. Oct. 12 at 11:59pm	
Week 9	M- Oct. 16	Muscle Physiology (12: 322-350)	Lab 8 – Neuromuscular (2hrs) Quiz 6
	W- Oct. 18	Muscle Physiology	
	F- Oct. 20	Muscle Physiology	
Week 10	M- Oct. 23	Cardiac Function (13: 359-370; 373-390)	Lab 9 – Cardiovascular Phys. (2hrs) <i>Complete PhysioEx 5 on your own</i> Lab Report for Lab 8 due
	W- Oct. 25	Cardiac Function	
	F – Oct. 27	Cardiac Function	
Week 11	M- Oct. 30	Vessels & Pressure (14: 394-426)	Lab 10 – Cardiovascular Function Quiz 7 Lab Report for Lab 9 due
	W- Nov. 1	Vessels & Pressure	
	F- Nov. 3	Exam 3 – Chapters 12, 13, and 14 HW 3 due Thurs. Nov. 2 at 11:59pm	
Week 12	M- Nov. 6	Pulmonary Ventilation (16: 448-469)	Lab 11 – Pulmonary Function (2hrs) Quiz 8 <i>Fri labs attend a different section</i>
	W- Nov. 8	Pulmonary Ventilation	
	F- Nov. 10	Holiday- No class	
Week 13	M- Nov. 13	Gas Exchange (17: 473-499)	Lab 12 – Renal Physiology Quiz 9 <i>Complete PhysioEx 9 on your own</i> Lab Report for Lab 11 due
	W- Nov. 15	Gas Exchange	
	F- Nov. 17	Gas Exchange	
Week 14	M- Nov. 20	Renal Function (18: 503-527)	No Labs
	W- Nov. 22	Holiday- No class	
	F- Nov. 24	Holiday- No class	
Week 15	M- Nov. 27	Renal Function	Lab 13 – Acid-Base Physiology Quiz 10 <i>Complete PhysioEx 10 on your own</i>
	W- Nov. 29	Renal Function	
	F- Dec. 1	Fluid/Electrolyte Balance (19: 531-548)	
Week 16	M- Dec. 4	Fluid/Electrolyte Balance	No Labs – due to reading days on Thurs/Fri
	W- Dec. 6	Exam 4 – Chapters 16, 17, 18, and 19 HW 4 due Tues. Dec. 5 at 11:59pm	

**All PhysioEx lab modules are due on Friday at 11:59pm the week a PhysioEx lab is scheduled.*

STUDY TIPS FOR Dr. Nguyen's CLASS:

- Read from the text BEFORE attending lecture. Do not take notes, underline, highlight, or attempt to memorize anything...JUST READ and enjoy!
- Snow-ball the lecture notes. Begin studying lecture material immediately after the first lecture. Then, after the second lecture, begin your studies with day one lecture material. Continue this all the way up to the exam.
- If there is something in the textbook that was NOT in lectures, you are not expected to know it. There is a lot in the text that we don't have time to cover.
- Re-write questions. Taking complex questions and breaking them down to identify exactly what the question is REALLY asking for is very helpful. It is also very helpful to look at incorrect answer choices and identify what makes those choices wrong. Ask yourself, "How could I make that statement correct?" **You can practice this with the critical thinking questions at the end of each chapter and with the more complex homework questions. There will also be practice problems posted in CANVAS.**
- Google diseases or drug mechanisms of action. For example, if we are studying neurophysiology, Google "brain diseases". Click on any link and just read a paragraph to see if you can understand based on what you now know about nervous tissue structure and function. If you don't understand it, that's okay...did you recognize any words?...did you at least have a *clue* what was going on? This makes for GREAT discussion during group study.

SUCCESS TIPS FOR Dr. Nguyen's CLASS:

- Do not fall behind. This course moves at a FAST pace...and you can easily get overwhelmed if you procrastinate. Avoid studying at the last minute. Complete the homework as you go...do not leave it for the day before the exam.
- Stay organized. Keep track of all important due dates and move through each day in a uniform manner so that you are always aware of what you have done and what is left to be completed.
- Check CANVAS announcements/emails **daily**...just pretend it is Facebook for school. Your course instructor will post important and helpful information (such as friendly reminders of due dates) as announcements.
- Have a positive attitude! THIS STUFF IS COOL!

PERSONAL NOTE FROM Dr. Nguyen:

If you are totally overwhelmed by the stresses of your semester and feel like you just can't handle the pressure, please contact me or someone at UF's Counseling and Wellness center. I genuinely care for my students' wellbeing. Without you, I would have no one to teach...and that's uncool. Please take care!

