

Current Educational Efforts and Challenges

Reported by Jia Shi Integrative Physiology October 15, 2018

Facts about IPHY

- Tenured and Tenure-Track Faculty: 22
- Instructors: 9 + 1
- Graduate Students: 57-75 (Fa18: 25 PhD, 26 MS, and 6 BA/MS)
- Undergraduate Students: ~1800
- Current service and major courses >

Service Courses

- Nutrition (IPHY 2400): ~400/semester
- Anatomy lecture (IPH 3410): 450/310 and lab (IPHY 3415)
- Physiology for Non-major (IPHY 3430): main campus:70-86/semester; Online: 21/semester
- Introduction to Epidemiology (IPHY 3490): 100-130/semester
- Statistics (IPHY 2800): applied to fulfill QRMS requirement

INTEGRATIVE PHYSIOLOGY FLOW CHART

Ancillary Courses IPHY Required

(C- or better is required)

Biology Sequence

Offered: Check with advisor for availability

EBIO 1210/1230 and EBIO 1220/1240

MCDB 1150 and MCDB 2150 and 2 credit hour lab

Chemistry Sequence

Offered: Fall, Spring & Summer

CHEM 1113/1114 and CHEM 1133/1134

Calculus 1

- Offered: Fall, Spring & Summer
- Prerequisite: Math placement test. May need Math 1011 and/or Math 1150

MATH 1300: geometry & calculus

MATH 1310: calculus, stoichiometry & modeling

Statistics: IPHY 2800-4 or Equiv.

Offered: Fall, Spring & Summer

IPHY 2800 counts towards the IPHY credit hours

Physics Sequence

· Offered: Fall, Spring & Summer

Algebra Based: PHYS 2010 & 2020

Calculus Based: PHYS 1110 & 1220/1140

Note: Calc-based physics requires calc 1 and 2

IPHY Courses & Prerequisites

(C- or better required)

Human Anatomy & Lab: IPHY 3410-3 & 3415-2

- Offered: Fall, Spring & Summer
- Prerequisites: 1 year Bio Sequence

Physiology 1: IPHY 3470-3 (lecture only)

Offered: Fall, Spring & Summer

 Prerequisite: 1 year Bio Sequence, 1 year Chemistry Sequence, IPHY 3410

Physiology 2 & Lab:

IPHY 3480-3 & 3435-2

- Offered: Fall, Spring & Summer
- Prerequisite: IPHY 3470, 3410, 3415 (prereq. for 3480 and 3435) and IPHY 2800 (pre-req. for 3435 only)

See your academic advisor to develop an individualized plan to complete the major

* Summer course availability is subject to Change

IPHY Capstone Courses & Prerequisites

(choose 3 of the 6 courses, C- or better required)

Cellular Physiology: IPHY 3060-4

- Offered: Fall
- Prerequisite: IPHY 3470
- Course components: Lecture and lab

Immunology: PHY 4600-3

- Offered: Fall & Spring (& summer*)
- Prerequisite: IPHY 3470 (3060 Rec)
- Course components: Lecture

Endocrinology: PHY 4440-4

- Offered: Fall &Spring (& summer*)
- Prerequisite: IPHY 3470
- Course components: Lecture and recitation

Biomechanics: PHY 4540-5

- Offered: Fall & Spring
- Prerequisite: IPHY 2800, 3470, Calculus 1 & Physics 1
- Course Components: Lecture, lab and recitation

Exercise Physiology: PHY 4650-5

- Offered: Fall & Spring
- Prerequisite: IPHY 3480
- Course Components: Lecture, lab and recitation

Neurophysiology: IPHY 4720-4

- Offered: Fall & Spring (& summer*)
- Prerequisite: IPHY 2800 & 3470
- Course Components: Lecture and lab

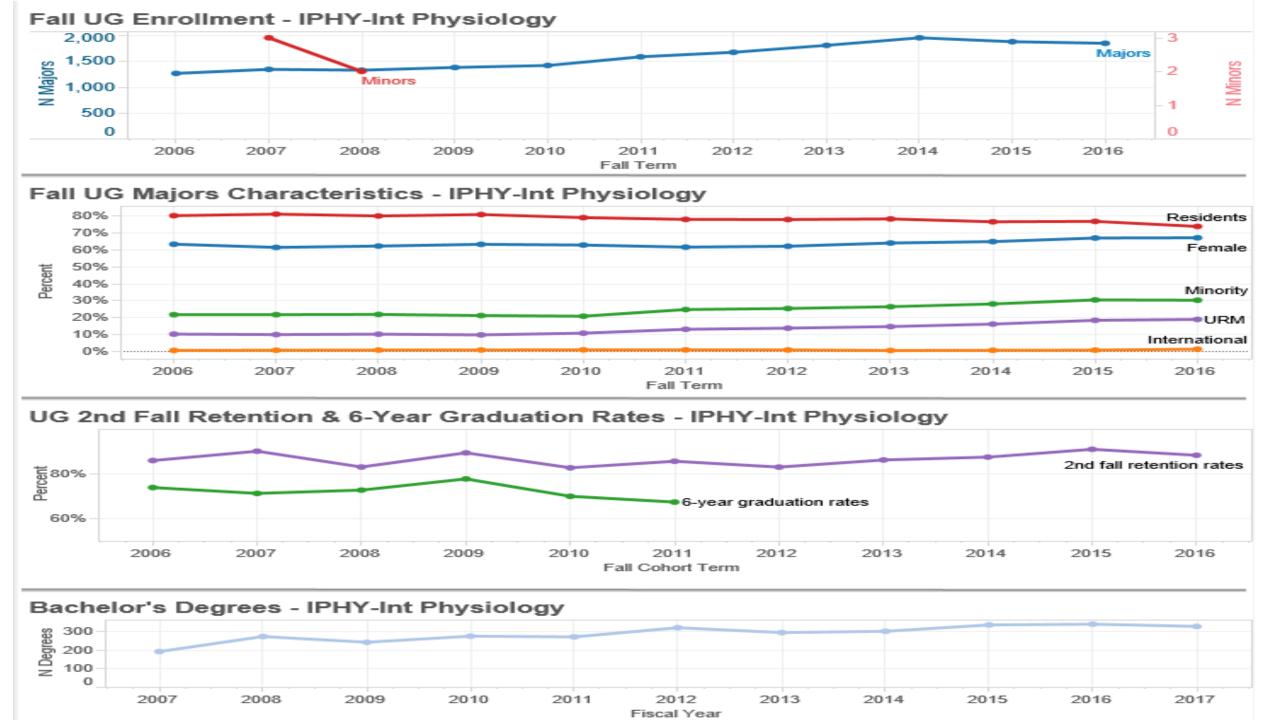
Additional IPHY Coursework May Be Needed to Reach 30 Hours of IPHY (18 Upper Division) to Complete the IPHY Major

Other Upper Division Credits

- Internships (6 Cr): Sp 46/Fa 39
- Independent Studies (6 Cr): Sp 34/Fa 15
- UGTA Program (6 Cr): Sp 118/Fa 98
- UGTA Training Class (1 Cr): since Fa 2017

What's Difficult?

- Anatomy Lab:
 - Popular
 - DFW rates: 25-30%
 - Change to elective?



Retention Rates

 49% (1st declared IPHY as their major) graduated with IPHY

 25% left IPHY but graduated from CU

26% left CU

What's Working Well?

All Instructors involved in pedagogy

- 3 department education specialists
- Developed lots of active learning materials
- Continue training and attending workshops
- Teach all core courses except two
- Mentor new faculty



Example of a case study in an immunology class

Example of UGTA assistance in the physiology Lab

What's Working Well? - Continued

- 5 Tenure-track faculty were involved in developing learning goals for the labs.
- 2 New faculty are on board with active learning.
- Some faculty created two-tier exam questions on their own.
- 1 faculty created first CURE

	LGs	Homework	Clickers	Worksheet	Case Studies	Two-tier Exam Questions	Pre/post Assessment
IPHY2420		Υ		Υ	Υ		
IPHY2800	У	У	Υ				
IPHY3010	Υ	Υ	Υ	Υ	Y/N	Y/N	
IPHY3415	У	Υ		Υ		У	Υ
IPHY3470	У	Y/N	Y/N	Υ	Y/N		Y/N
IPHY3480	У	Y/N	Υ	Υ	Y/N		Y/N
IPHY3435	У			Υ	Υ	Υ	Υ
IPHY3700	У	У					Υ
IPHY3060	Υ	Υ					
IPHY4440	У	У	Υ		У		У
IPHY4540	У	У	Υ				
IPHY4600	У	У	Υ		У		У
IPHY4650	У		Υ				
IPHY4720	Υ	Υ	Υ	Y/N	Y/N		Y/N
IPHY3490	Υ	Υ	Υ	Υ	Υ	Υ	Υ

Q:What is the ONE BEST THING about IPHY?

FuturePreparation Answered: Fun/interesting Capstone
Opportunities PreMed
Other Community Physiology Variety AnatomyLab

Certificate and Club

- Public Health Certificate: IPHY faculty developed and teach the epidemiology course
- IPHY Club: peer tutoring

Challenges

- 4+4 teaching load for instructors
- Too few opportunities for research and internships
- Insufficient interactive classrooms
- Lack of space for office hours and exam accommodations (1→15%)
- 5 faculty retired in recent years
- Minimal faculty interactions due to spread of physical locations

Future Changes/Actions

- Simplify our major
 - Reduce the number of required IPHY credits
 - More flexibility
 - Opportunities for personalization of program
- Installing an Internship Coordinator:
 - Oversee all internships
 - Reach out to the community for potential positions
- Recruit more faculty
- Increase faculty interactions
 - Improve the sense of community
- Ramaley addition (by 2020)

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Questions?