

Integrative Physiology

UNIVERSITY OF COLORADO BOULDER

Graduating in Four Years

To ensure steady progress in the Integrative Physiology (IPHY) degree, please meet these requirements:

- <u>Declare the major</u> by the first semester.
- Complete general biology and chemistry sequences by the third semester.
- Finish anatomy and physiology sequences by the fifth semester.

Example IPHY major plan (not including pre-health program or general education requirements):

Year	Fall	Spring
1	Biology with lab (4 credits) *CHEM 1021: Intro Chem (4 credits) *IPHY 1020: Intro to IPHY (1 credit) *ENGL or WRTG course #1	Biology with lab (4 credits) CHEM 1113/1114: Gen Chem 1 (5 credits) *IPHY 2400: Medical Terminology (2 credits)
2	CHEM 1133/1134: Gen Chem 2 (5 credits) IPHY 3410: Human Anatomy (3 credits)	IPHY 3280: Biostatistics (4 credits) (or other approved Statistics class) IPHY 3430: Human Physiology (4 credits) *IPHY 3415: Human Anatomy Lab (2 credits)
3	IPHY 3435: Physiology Lab or IPHY 3437: Virtual Physiology Lab (2 credits)	PHYS 2010: Gen Physics 1 (5 credits) **IPHY Core Course #1 (3-5 credits)
4	**IPHY Core Course #2 (3-5 credits) **IPHY Core Course #3 (3-5 credits)	**IPHY Core Course #4 (3-5 credits)

*Recommended, but not required for IPHY degree

**See IPHY roadmap at end of document for course selection and prerequisites

Based on your goals, you may choose to follow one of the pre-health tracks below. Each student's journey is unique, so meet with your IPHY academic advisor to tailor your plan and adjust courses as needed. These example plans serve as **guides**, but individual student needs and course timing will vary. Consult with your advisor to determine the best path and incorporate general education requirements.

General Notes for Pre-Health Students:

- Students near the beginning of their pre-health journey should consider taking IPHY 1030: Intro to the Health Professions to explore healthcare fields of interest (offered Spring semester only).
- Students getting ready to apply to health professional school should consider taking IPHY 2030: Preparing for a Career in the Health Professions to begin strengthening their application (offered Fall semester only).
- Most health professional schools (with the exception of nursing) do not accept AP or IB credits for prerequisite courses. Since most schools require 1-2 semesters of writing or English literature credits, the <u>Office of Pre-Health Advising (OPHA)</u> recommends taking two courses from ENGL or WRTG departments at CU Boulder. IPHY 3700 Scientific Writing also counts towards this requirement.
- PSYC 3303: Clinical Psychology: Psychological Disorders and PSYC 3684: Development Psychology are required or recommended for many health professions (e.g. Physical Therapy, Physician Assistant, Nursing). However, registration for these courses can be challenging. Discuss a plan for these courses with your academic advisor and/or an OPHA advisor.



Pre-Health Example #1: Pre-Medicine (Med) Track - Additional Chemistry, Physics, and Writing Requirements for Med School

Biology with lab (4 credits) CHEM 1021: Intro Chem (4 credits)	Biology with lab (4 credits)
IPHY 1020: Intro to IPHY (1 credit) ENGL or WRTG course #1	CHEM 1113/1114: Gen Chem 1 (5 credits) *IPHY 2400: Medical Terminology (2 credits)
CHEM 1133/1134: Gen Chem 2 (5 credits) PHY 3410: Human Anatomy (3 credits) PHY 3280: Biostatistics (4 credits) (or other approved Statistics class)	CHEM 3311/3321: Organic Chem 1 (5 credits) IPHY 3430: Human Physiology (4 credits) *IPHY 3415: Human Anatomy Lab (2 credits)
3CHM 4611: Biochemistry (3 credits) PHY 3435: Physiology Lab (2 credits)	CHEM 3331/3341: Organic Chem 2 (5 credits) PHYS 2010: Gen Physics 1 (5 credits) **IPHY Core Course #1 (3-5 credits)
PHYS 2020: Gen Physics 2 (5 credits) PHY 3700 Scientific Writing (or ENGL or WRTG course #2) *IPHY Core Course #2 (3-5 credits) Begin studying for the Medical College	 **IPHY Core Course #3 (3-5 credits) **IPHY Core Course #4 (3-5 credits) Take the MCAT and apply to medical school.
	ENGL or WRTG course #1 HEM 1133/1134: Gen Chem 2 (5 credits) HY 3410: Human Anatomy (3 credits) HY 3280: Biostatistics (4 credits) (or other oproved Statistics class) CHM 4611: Biochemistry (3 credits) HY 3435: Physiology Lab (2 credits) HY 3435: Physiology Lab (2 credits) HYS 2020: Gen Physics 2 (5 credits) HYS 2020: Gen Physics 2 (5 credits) HY 3700 Scientific Writing (or ENGL or (RTG course #2) IPHY Core Course #2 (3-5 credits)

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Pre-Health Example #2: Pre-Physical Therapy (PT) Track - Additional Physics, Psychology, and

Writing Courses for PT School

Year	Fall	Spring
1	Biology with lab (4 credits) PSYC 1001: Gen Psych (3 credits) *CHEM 1021: Intro Chem (4 credits) *IPHY 1020: Intro to IPHY (1 credit) *ENGL or WRTG course #1	Biology with lab (4 credits) CHEM 1113/1114: Gen Chem 1 (5 credits) *IPHY 2400: Medical Terminology (2 credits)
2	CHEM 1133/1134: Gen Chem 2 (5 credits) IPHY 3410: Human Anatomy (3 credits)	IPHY 3280: Biostatistics (4 credits) (or other approved Statistics class) IPHY 3430: Human Physiology (4 credits) IPHY 3415: Human Anatomy Lab (2 credits)
3	IPHY 3435: Physiology Lab (2 credits) PSYC 3303: Clinical Psychology (3 credits) **IPHY Core Course #1 (3-5 credits)	PHYS 2010: Gen Physics 1 (5 credits) PSYC 3684: Developmental Psychology (3 cr) **IPHY Core Course #2 (3-5 credits)
4	PHYS 2020: Gen Physics 2 (5 credits) IPHY 3700 Scientific Writing (or ENGL or WRTG course #2) **IPHY 4650: Exercise Physiology (or IPHY Core Course #3)	**IPHY 4540: Biomechanics (or IPHY Core #4) Take the Graduate Records Exam (GRE) if required and apply to Doctor of Physical Therapy programs.

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http://www.colorado.edu/iphy/

Pre-Health Example #3: Pre-Physician Assistant (PA) Track - Additional Biology, Chemistry, Math,

Physics, Psychology and Writing Courses for PA School

Year	Fall	Spring
1	EBIO 1210/1230: Gen Bio 1 and lab (4 cr) PSYC 1001: Gen Psych (3 credits) *CHEM 1021: Intro Chem (4 credits) *IPHY 1020: Intro to IPHY (1 credit) *ENGL or WRTG course #1	EBIO 1220/1240: Gen Bio 2 and lab (4 credits) CHEM 1113/1114: Gen Chem 1 (5 credits) *IPHY 2400: Medical Terminology (2 credits)
2	CHEM 1133/1134: Gen Chem 2 (5 credits) IPHY 3410: Human Anatomy (3 credits) IPHY 3280: Biostatistics (4 credits) (or other approved Statistics class)	CHEM 3311/3321: Organic Chem 1 (5 credits) IPHY 3430: Human Physiology (4 credits) IPHY 3415: Human Anatomy Lab (2 credits)
3	BCHM 4611: Biochemistry (3 credits) EBIO 2070: Genetics (4 credits) IPHY 3435: Physiology Lab (2 credits) PSYC 3684: Developmental Psych (3 credits)	EBIO 3400/3410: Microbiology and lab (5 credits) PHYS 2010: Gen Physics 1 (5 credits) PSYC 3303: Clinical Psychology (3 credits) **IPHY 4600: Immunology (or IPHY Core #1)
4	MCDB 3145: Cell Biology (3 credits) (or IPHY 4060: Cell Physiology <i>may</i> count for some PA schools, but cannot be guaranteed; check with individual PA schools) IPHY 3700 Scientific Writing (or ENGL or WRTG course #2) **IPHY Core Course #2 (3-5 credits)	 **IPHY Core Course #3 (3-5 credits) **IPHY Core Course #4 (3-5 credits) If required for PA schools of interest: MATH 1150 (4 credits) or MATH 1300 (5 credits) Take the Graduate Records Exam (GRE) and/or Physician Assistant College Admissions Test (PA-CAT) if required and apply to PA school.

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Pre-Health Example #4: Pre-Nursing Track - Additional Biology, Nutrition, Psychology, Sociology, and Writing Courses for Accelerated Nursing Programs

Year	Fall	Spring
1	Biology with lab (4 credits) PSYC 1001: Gen Psych (3 credits) *CHEM 1021: Intro Chem (4 credits) *IPHY 1020: Intro to IPHY (1 credit)	Biology with lab (4 credits) CHEM 1113/1114: Gen Chem 1 (5 credits) SOCY 1001: Intro Sociology (3 credits) *IPHY 2400: Medical Terminology (2 credits)
2	CHEM 1133/1134: Gen Chem 2 (5 credits) IPHY 3410: Human Anatomy (3 credits)	IPHY 3280: Biostatistics (4 credits) (or other approved Statistics class) IPHY 3430: Human Physiology (4 credits) IPHY 3415: Human Anatomy Lab (2 credits)
3	IPHY 3435: Physiology Lab (2 credits) IPHY 2420: Intro Nutrition (3 credits)	PHYS 2010: Gen Physics 1 (5 credits) EBIO 3400/3410: Microbiology and lab (5 credits) PSYC 3684: Developmental Psych (3 credits)
4	IPHY 3700 Scientific Writing (or ENGL or WRTG course) **IPHY Core Course #1 (3-5 credits) **IPHY Core Course #2 (3-5 credits)	*IPHY 4300: Pathophysiology (3 credits) **IPHY Core Course #3 (3-5 credits) **IPHY Core Course #4 (3-5 credits) <i>Take a nursing entrance exam (if required) and apply to nursing school.</i>

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Pre-Health Example #5: Pre-Dentistry Track - Additional Biology, Chemistry, Physics, and Writing Courses for Dental School

Year	Fall	Spring
1	Biology with lab (4 credits) *CHEM 1021: Intro Chem (4 credits) *IPHY 1020: Intro to IPHY (1 credit) *ENGL or WRTG course #1	Biology with lab (4 credits) CHEM 1113/1114: Gen Chem 1 (5 credits) *IPHY 2400: Medical Terminology (2 credits)
2	CHEM 1133/1134: Gen Chem 2 (5 credits) IPHY 3410: Human Anatomy (3 credits) IPHY 3280: Biostatistics (4 credits) (or other approved Statistics class)	CHEM 3311/3321: Organic Chem 1 (5 credits) IPHY 3430: Human Physiology (4 credits) *IPHY 3415: Human Anatomy Lab (2 credits)
3	CHEM 3331/3341: Organic Chem 2 (5 cr) IPHY 3435: Physiology Lab (2 credits)	BCHM 4611: Biochemistry (3 credits) PHYS 2010: Gen Physics 1 (5 credits) EBIO 3400/3410: Microbiology and lab (5 credits)
4	PHYS 2020: Gen Physics 2 (5 credits) IPHY 3700 Scientific Writing (or ENGL or WRTG course #2) **IPHY Core Course #1 (3-5 credits) **IPHY Core Course #2 (3-5 credits)	 **IPHY Core Course #3 (3-5 credits) **IPHY Core Course #4 (3-5 credits) Take the Dental Admissions Test (DAT) and apply to dental school.

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http://www.colorado.edu/iphy/



Additional resources:

Biology advising – for information about meeting with an academic advisor, declaring the IPHY major, graduating within 4 years, and for answers to frequently asked questions. Website: <u>https://www.colorado.edu/biologyadvising/</u>

Pre-health advising – for information about meeting with a pre-health advisor, declaring "pre-health" interest, and getting access to health professions resources, like prerequisite coursework and application tips.

Email: prehealth@colorado.edu

Website: https://www.colorado.edu/programs/prehealth-advising/

Check your degree progress

A degree audit report is a tool on Buff Portal Advising

(<u>https://www.colorado.edu/registrar/students/degree-planning/audit/run</u>) that tracks degree requirements. We recommend reviewing an up-to-date degree audit every semester to help yourself stay on track toward graduation.