Information for Physiology Majors

Advising Session
Lower Division Requirements

1. 38-39 lower division units are required
   - BIOL 230
   - BIOL 240
   - CHEM 115
   - CHEM 215/216
   - CHEM 130
   - PHYS 111/112/121/122 or 220/222/230/232
   - MATH 226

Premed. pre-dental and pre-pharm students

CHEM 333/334/335/336
Use EQUIVALENCY FORM to use CHEM 333 in place of CHEM 130
Fall 2010 CHEM 333 renumbered to CHEM 233
Lower Division Electives
2nd semester of mathematics

1. MATH 124 (Elementary Statistics)
2. MATH 227 (Calculus II)
3. BIOL 458 (Biometry)

Pre-med, pre-dental and pre-pharm students

Many schools require two semesters of calculus, so be sure to check the requirements of the schools to which you’re applying.

Students intending to go to graduate school

Math 124 is not a good choice for grad schools. You’re better off taking either Calculus II, Biometry (BIOL 458) or PSY 371.
Upper Division Requirements

1. BIOL 350 (Cell Biology)
2. BIOL 355 (Genetics)
3. CHEM 340 or CHEM 349

What you plan to do after graduation determines the biochemistry class you take. Most medical, dental, pharmacy and graduate programs in biology only require one semester of biochemistry, but some graduate school programs may require two (CHEM 340/341). Check with the specific programs you’re interested in to find out which you should take.
Upper Division Physiology Electives

1. 10-11 upper division physiology elective units are required and one class must contain a lab section
   - BIOL 525/526
   - BIOL 612/613
   - BIOL 630/631

   Students interested in botany, plant physiology and ecology should consider taking plant physiology.

   Most physiology majors will take human physiology. It’s recommended for all the pre-health profession students.

   If you are interested in ecology, invertebrate biology, comparative physiology, zoology, marine biology or veterinary medicine, a good choice would be animal physiology.
Upper Division Physiology Electives

1. Two of the following:
   - BIOL 616 (Cardiorespiratory physiology)
   - BIOL 617 (Advanced topics in physiology)
   - BIOL 620 (Endocrinology)
   - BIOL 621 (Reproductive Physiology)
   - BIOL 622 (Hormones and behavior)
   - BIOL 640 (Cellular neuroscience)
   - BIOL 642 (Systems neuroscience)

Also consider taking one additional course from 525/612/630 and then one of the courses above
When are the physiology courses generally offered?

1. BIOL 525/526 Plant Physiology Lec/Lab (spring)
2. BIOL 612/613 Human Physiology Lec/Lab (spring and fall)
3. BIOL 630/631 (Animal Physiology Lec (fall) /Lab (spring)
4. BIOL 616 Cardiorespiratory Physiology (spring)
5. BIOL 620 Endocrinology (spring and fall)
6. BIOL 621 Reproductive Physiology (summer)
7. BIOL 640 Cellular Neurosciences (fall)
8. BIOL 642 Neural Systems Physiology (summer)

This is when the classes are generally offered; course availability can change from year to year.
Upper Division Electives

1. Need an additional 10-11 upper division elective units selected from the following:
   - Cell and molecular emphasis
   - Anatomy, evolution and ecology emphasis
2. One of the electives must be a lab class
3. At least one elective must be selected from each of the two categories
   - One class from one emphasis and two from the other
4. Substitutions can be made among these classes with consultation and approval of an advisor
Cellular and Molecular Emphasis

1. BIOL 351 (Exp. cell and molecular biology) ‡ §
2. BIOL 357 (Molecular genetics) ‡ §
3. BIOL 361 (Human genetics) *
4. BIOL 382 (Developmental biology) ‡
5. BIOL 435 (Immunology) *
6. BIOL 524 (Plant Molecular Biology) ‡
7. BIOL 652 (Science Education Partners in Biology) ‡
8. BIOL 699 (Special studies) * ‡ §
9. BIOL 730 (Pharmacology)
10. BIOL 865 (Graduate seminar) ‡
11. CHEM 343 (Biochemistry I laboratory)

* Health professions
‡ Graduate School
§ Biotech
Ecological, Anatomical, and Evolutionary Emphasis

1. BIOL 328 (Human anatomy) *
2. BIOL 337 (Evolution) ‡
3. BIOL 482 (Animal ecology) ‡
4. BIOL 504 (Biology of the fungi) ‡
5. BIOL 505 (Vascular plant anatomy) ‡
6. BIOL 529 (Plant ecology) ‡
7. BIOL 555 (Marine invertebrate zoology) ‡
8. BIOL 585 (Marine ecology) ‡
9. BIOL 600 (General Animal Behavior) ‡
10. BIOL 606 (Behavior and Physiology of Marine Mammals) ‡
11. BIOL 614 (Vertebrate histology) * ‡
12. BIOL 652 (Science Education Partners in Biology) ‡
13. BIOL 699 (Special study) * ‡ §
14. BIOL 865 (Graduate seminar) ‡

* Health professions
‡ Graduate School
§ Biotech
Special Study in Biology (BIOL 699)

1. Generally it involves research in someone’s lab
2. You need to find a mentor yourself
   - Read the descriptions of research in various labs and choose the ones that sound most interesting to you
3. If there is room available in a lab, you and your mentor will work out a project for you, how you will be evaluated, number of units you’ll sign up for etc
4. Sign up for the units officially during the add period of spring and fall semesters (no official credit given for 699 during the summer)
5. Can only use 699 units to satisfy one of the course requirements for either the Cellular and Molecular Emphasis or the Ecological, Anatomical, and Evolutionary Emphasis
Principles in Choosing Classes

1. Don’t try to take too many lower division classes at the same time—these are the classes that seem to cause students the greatest difficulty
   - Try to take no more than two major classes at the same time during the first couple of years
2. It’s generally better (when possible) to take fewer classes and remain an extra semester than to take too many at once and have to repeat them later
   - Any class that is used as a prerequisite for another class must be passed with a grade of C- or above
One Road Map to Graduation

Semester 1: CHEM 115, MATH 226
Semester 2: BIOL 230; CHEM 130
Semester 3: BIOL 240; PHYS 111/112
Semester 4: BIOL 350; PHYS 121/122
Semester 5: BIOL 612 or 630; CHEM 215/216; 3 units UD electives
Semester 6: BIOL 613 or 630; BIOL 355; CHEM 340 or 349
Semester 7: 6 units UD physiology electives; MATH 227
Semester 8: 6 units UD physiology electives;

BIOL 328 is an impacted course, you may want to try enrolling in Semester 5
If you keep getting frozen out of lower division classes, try taking them at a junior college
What if you want to take classes at another school?

1. Check on www.assist.org to see which courses have already been approved as being equivalent to SFSU courses

2. If there is no equivalent course at the school you want to attend, then see an advisor BEFORE you take the class to ensure it is the equivalent and complete a course equivalency form

3. If you’ve already taken the class and need to have it transferred officially, then see an advisor to complete a course equivalency form (the Registrar giving you credit for units taken, does NOT necessarily mean they can be used for the major)
   - Bring a transcript from the school
   - If the course is not listed on www.assist.org, bring a syllabus or course description
Course Equivalency Form

YOU MUST PROVIDE A PRINTOUT FROM ASSIST.ORG AND/OR A COURSE DESCRIPTION AND/OR A SYLLABUS TO YOUR ADVISOR
EQUIVALENCY AUTHORIZATION
for Biology Major Course Requirements

Student Name: ____________________________ E-mail: ____________________________ SFSU ID: ____________________________

*It is the student’s responsibility to keep this form and submit it with his/her graduation petition.
*Community college transfer units CANNOT be used to meet UPPER DIVISION UNIT REQUIREMENTS

I request the following course:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Course No.</th>
<th>Title</th>
<th>Units</th>
<th>Term (Sem or Qtr?)</th>
</tr>
</thead>
</table>

to be used as an equivalent for the following SFSU course requirement:

SFSU

<table>
<thead>
<tr>
<th>Institution</th>
<th>Course No.</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
</table>

This course equivalency was determined by:

☐ A formal articulation agreement  ☐ evaluation by faculty advisor from course materials

I have determined this course to be:

☐ Lower Division  ☐ Course Content only/ No Unit Credit

☐ Upper Division
Common mistakes in transferring classes

1. Expecting that courses taken at a Junior College can be used for upper division credit at SFSU
   - XX at City College cannot be transferred and counted as YY at SFSU, at least for credit
   - You can get credit for the content, but not the units

2. You get credit for fewer units than you expected for course when transferring a class
   - A four unit class at one school may only be equivalent only to a three unit class at SFSU—you’ll get credit for three units, not four
   - The equivalent course at SFSU may be four units, but the course you are transferring is only three units—you’ll get credit for three units, not four

3. Not completing course equivalency forms until you plan to graduate
   - Last minute surprises the semester you plan to graduate are difficult and stressful
When should you repeat a course?

1. If you receive less than a C- in a lower division course, you generally have to retake the course (check with an advisor to make sure)

2. If your GPA in your major is less than 2.0, you need to consider repeating courses in the major

3. If you receive a C or better in an SFSU course, the University Course Repeat Policy prevents you from repeating the course at SFSU
   - You may wish to repeat the course if you receive a C, if you plan on applying to a health professional or graduate school
   - You may petition the Department to retake the course
   - You may take the equivalent lower division course at a community college

Courses taken for C/NC cannot be counted towards your major. Graduate and professional schools often assign a C- to courses taken for credit when calculating your GPA…
How is your GPA calculated when you repeat a course?

“When undergraduate students choose to repeat a course in which the grade was F, U, WU, or IC, all units attempted and all grade points will be included in the student's cumulative totals. (Units earned toward graduation include courses receiving passing grades only.) When undergraduate students choose to repeat a course in which the grade was passing, all units attempted and all grade points earned will be used in the calculation of the student's grade point average, but the units earned will be applied to the calculation of total units earned only once.”
Minors and Double Majors

1. Can only major in one area of biology
2. Given the chemistry requirements for the physiology major, some students will choose to take a couple of additional courses and get a minor in chemistry
Physiology Faculty Advisors (Spring 2010)

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