Contact us:

421 New Biology Building
985-549-3740

biology@selu.edu

http://www.southeastern.edu/acad_research/depts/biol/index.html

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This handbook does not contain all the extensive information about Biological Sciences found on our website and in the catalogue.

For our website go to: http://www.southeastern.edu/acad_research/depts/biol/index.html

Some of the information on our website includes:

1. Degree Programs – Undergraduate and Graduate
2. Faculty information
3. Facilities and Research
4. Department Brochure
5. Turtle Cove, Vertebrate Museum, etc
6. Organizations and Clubs
   a. Delta Omega Alpha (Pre-professional Honor Society)
   b. Beta Beta Beta (National Biology Honor Society)
   c. BUGS (Biology Undergraduate Society)
7. Curriculum Sheets

For the information in the catalogue go to:

Some of the information found there includes:

1. Major and Minor and Honors Requirements
   a. Degree plans
      i. Biology Education Concentration
      ii. Ecology, Environmental, and Evolutionary Biology
      iii. Integrative Biology
      iv. Microbiology/Molecular Biology
      v. Plant Science
      vi. Environmental Health (joint program with Tulane)
   b. Honors requirements
2. Course Descriptions and Pre-requisites
The following advising information is not found in the catalogue or website.

Contents:  

Freshman Orientation Information Sheet  
Pre-Professional Program Information  
Pre-Professional Applications and Testing  
On-line (Internet) Course Warning  
Withdrawing from Classes: Important Considerations  

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BIOLOGICAL SCIENCES

FRESHMAN ORIENTATION INFORMATION SHEET

Biological Sciences Office: 421 New Biology Building (4th floor)  phone 985-549-3740
Center for Student Excellence: Room 113 Southeastern Hall phone 985-549-3981

Maximum Number of Hours = 19 HRS total per regular semester (10 in summer). Students who earned at least a 3.0 GPA in the previous semester can appeal to the Dean to take more hours.

Minimum number of hours to be Full-Time student = 12 HRS per semester (6 in summer). Be aware that withdrawing from or failing classes can affect eligibility for financial aid.

Select first semester courses from below (see Catalog for more complete information). You must be advised every semester. During your first semester you will be assigned an advisor in the Center for Student Excellence. A Biology faculty mentor will be assigned after you have met certain requirements. Advanced biology classes cannot be taken until your first regular Math (155/161/165/200), GBIO 151, and CHEM 121 have been completed with a C or better.

Freshman Success: SE 101 (2 hr) REQUIRED Freshman Course

Math requirements: MATH 92 or 92A (3 hrs) - 18 or below on Math ACT (leads to 155)
MATH 155A (5 hrs) – 19 to 20 on Math ACT (leads to 162/163)
MATH 161 (3 hrs) – 21 or above on Math ACT (leads to 162/163 or 165)
MATH 165 (3 hrs) - 25 or higher Math ACT (leads to 200)
MATH 200 (5 hrs) - 28 or higher Math ACT. Grade of C or better will also receive credit for MATH 165.
**English requirements:**

ENGL 92 (4 hrs) - English ACT 17 or below

**ENGL 101 (3 hrs)** - must have English ACT 18 or higher

**ENGL 121H (3 hrs)** - English ACT 21 or above and composite of 24

ENGL 102 (3 hrs) (skip 101) - English ACT 29 or above

**Biology requirements:**

GBIO 151 or 151H (3 hrs) and BIOL 152 (1 hr) - must be eligible to take MATH 155/161 and ENGL 101 (i.e. must finish ENGL 92 and MATH 92).

Must earn a C or better in all required biology classes.

**Chemistry:**

CHEM 121 (3 hrs) and CLAB 123 (1 hr) - Math ACT of 24 or higher or have completed MATH 155 or 161

**Foreign Language:**

Must take 12 hours in one language (unless you test out). Example: SPAN or FREN or GERM or ITAL or LAT 101 (3hrs), 102, 201, 202

**Social Sciences:**

Possible choices: PSYC 101 or 117 H (3 hrs); POLI 201, 202; ECON 102, 201, 202, 211, 212; GEOG 103, 131; SOC 101, 222; ANTH 101

**History:**

HIST 101, 102, 201, 202 (any of these), HIST 101 H (Honors) (all 3 hrs)

**Arts elective:**

MUS 151, 111, THEA 131, ART 105, 106, 107, 111, 115 (most are 3 hrs), DNC (there are many 1 hr dance classes)

**Others:**

LS 102 (1 hr), COMM 211 (3 hr), CPL 104 (3 hr), CMPS 110 (3 hrs)
Biological Sciences
Southeastern Louisiana University

**Pre-Professional Programs**

The Department of Biological Sciences offers Pre-Professional programs in **Pre-Medicine, Pre-Dentistry, Pre-Physical Therapy, Pre-Optometry, Pre-Pharmacy, Pre-Veterinary Medicine, Pre-Occupational Therapy, and Pre-Agriculture/Forestry, etc.**

These professional degrees normally are completed at the Masters’ or Doctoral level (except Agriculture which is at the Bachelor’s level). Students interested in these programs should plan on completing their Bachelor’s degree in Biological Sciences before entering the professional school. Students interested in Agriculture should plan on transferring to a University with this program after completing one or two years at Southeastern.

Most pre-professional students should follow the general Biological Sciences or the Microbiology/Molecular Biology concentrations. Pre-Agriculture students should follow either the Ecology, Environmental, and Evolutionary Biology concentration or general Biological Sciences concentration. The student will be assigned an advisor familiar with the requirements for that particular concentration/program who can give detailed advice on which courses to take. Potential Honor Students should also check with the Honors Department to see what special courses are needed to earn an Honors diploma.
Typical courses which all pre-professional students are encouraged to take their first semester of their freshman year include: GBIO 151 and BIOL 152, MATH 161 (or 155) or 165 or 200, ENGL 101, SE 101, LS 102, and Foreign Language at the 101 level. In addition, other courses that can be taken include Art, Music, Theater, Dance, History (101, 102, 201, or 202), Psychology 101, Sociology 101, and Economics 102. The minimum number of hours to be a full time student is 12 with the maximum at 19 (unless approved by the Dean). However, most professional schools look at the average number of hours earned per semester and like to see an average around 17-18 and do not like to see a lot of Ws (often considered same as F). Medical schools have calculated that their load per semester is roughly equal to taking 27-30 hours in college so a student needs to prove they can handle a heavy load and still get good grades.

The typical second semester includes GBIO 153 and BIOL 154, MATH 162 or 200, ENGL 102, CHEM 121 and CLAB 123, and Foreign language at the 102 level. The student should meet with their advisor to determine the exact course selection for that semester and each semester after that. In addition, the student should become very familiar with the University catalog including course pre-requisites.

Professional schools are very competitive and most students who start as pre-professional do not get in. The average undergraduate GPA that professional schools require varies but in general at least a 3.2-3.4 is needed and more realistically a 3.6-3.8. To achieve that requires making mostly A’s and a few B’s every semester. Be aware that it takes three to six A’s to bring up one C.

In addition, most professional schools require high scores on a standardized test (such as the MCAT, DAT, and GRE). These tests are normally taken the junior year and are very intense and rigorous tests (much harder than the ACT or SAT). The serious student will start preparing for this test during the freshman year. When
taking a course try to make an A but also to learn as much possible about the subject. We have found that, in general, the students who do well on these tests are the students who read a lot, including newspapers, magazines, journals, and books not required in class.

Many professional schools now require that the student acquires work experience in the field before applying. This can be in a paid or volunteer position. For instance, Physical Therapy schools require a minimum of 60 hours working with a Physical Therapist. The Biology Department offers an “Internship” course in the junior year that can be used for this purpose.

Since the requirements for each professional school varies it is impossible to list every requirement. The student needs to meet with their assigned advisor to discuss the requirements. The student is also encouraged to join Delta Omega Alpha, which is the Pre-professional student organization. They take tours of professional schools; have invited speakers such as the Deans of Admission, current medical and dental students, professionals working in the field, etc. Pre-medical and dental students also need to be familiar with the Medical Evaluation Committee requirements. The MEC writes the letters of recommendation. Dr. James Dunn is the chairman and can provide more information.
Pre-professional Applications and Testing

It is fall 14 and the time has arrived to start thinking about preparing for admissions tests (MCAT, DAT, GRE, OAT, etc) and the application process for medical school, dental school, and other professional schools that you want to start attending in **2015 or 2016**. Yes, for many of these schools you need to start the application process over a year in advance! You can wait till summer or even later to start preparing, but to do well on the required tests it is recommended that you start studying at least three months before taking it (for the MCAT it is recommended to spend 300 hours preparing!). It is best to take the test in the spring or early summer so in case you are disappointed in the scores, you will have time to retake it. Also, as the admissions Deans have told us many times, students who **apply early** have a better chance of getting selected than those who wait till near the deadline. If you want to go to medical school or dental school (especially here in Louisiana) as part of your application you will need a letter from the **Southeastern Medical Evaluation Committee (MEC)**. For other schools you can use the committee or get letters on your own. For more information on the process, deadlines, and the MEC application forms go to:


For information on applying to medical schools and the MCAT go to AMCAS at [https://www.aamc.org/students/applying/amcas/](https://www.aamc.org/students/applying/amcas/)
and the school's website. For LSU New Orleans it is http://www.medschool.lsuhsc.edu/admissions/Requirements.aspx and for LSU Shreveport it is http://www.lsuhs creveport.edu/Admissions/Requirements.aspx.

For information on applying to dental school and the DAT go to the ADA http://www.ada.org/education.aspx and the school's website. For the LSU Dental School this is at http://www.lsusd.lsuhsc.edu/.

Do the same thing for Vet schools, Osteopathic Medicine, Pharmacy, Optometry, Chiropractic, Physical Therapy, PA, etc (go to their individual websites for application instructions).

Another good source of information is the Delta Omega Alpha (Pre-professional honor society) website at http://doaselu.org/.

One note of caution that does not affect biology majors but may affect other majors who are pre-professional students: The minimum science requirements listed on many of the websites are misleading. For instance, the LSU med schools list that all applicants must have eight hours of biology. But, according to the Admission Deans, if that is all a student has they will not even be considered, regardless of their GPA. The admissions committee wants to see good grades in other advanced biology and science classes beyond the minimum requirements. From the LSUMC website: "Enrollment in any of the following science courses may be beneficial to applicants: biochemistry, cell biology, comparative vertebrate anatomy, computer sciences, embryology (developmental
The Dean of Admissions at LSU School of Medicine in New Orleans recently gave some interesting facts about medicine and tips on getting into med school. He mentioned was that students should try to finish all their pre-requisites for med school (and the MCAT) in their first two years of college. This includes organic chemistry and physics. Then in their junior year they can concentrate on advanced biology classes that will help them not only with the MCAT but also when they get into med school. The classes he mentioned as being the most helpful to medical students were: cell/molecular biology, genetics, comparative (vertebrate) anatomy (not A&P), animal (general) physiology (again not A&P), and biochemistry.

He also stated that the United States faces a 15-30% shortage of doctors in the next 10-20 years thanks to the aging population. While most medical schools are enlarging their classes somewhat and a few new medical schools (both allopathic and osteopathic) being built, there still is projected to be a shortage. But the competition to get into medical school will probably not decrease. In the latest report on physicians' earnings, the average doctor earned about $238,000 last year which places them in the top 5% of income in the United States. The medium income for physicians with a sub-specialty was $384,000 which places them in the top 1% of income. For instance, the highest
paid of all were the cardiovascular-pediatric surgeons who made $725,704 on average. So study hard!

Another note: The MCAT will undergo major changes in 2015. This will impact many of our current students who will not be taking the test until then. According to news reports here are some of the proposed changes:

1. The biggest change is that the test will add a new section: psychological, social and biological foundations of behavior. So instead of the current three sections there will be four: biological and biochemical foundations, chemical and physical foundations of biological systems, psychological, social and biological foundations of behavior, and critical analysis and reasoning skills.

To prepare for the new section the students probably should take at least 2 courses in psychology (I would recommend Psyc 101 and also Developmental Psychology) along with a sociology class and maybe our animal behavior or neurobiology classes.

2. They are deleting the writing sample part of the test.

3. The test will increase in time from the current 5 and 1/2 hours to over 7 1/2 hours (including breaks)!

4. Organic chemistry will not be as emphasized while biochemistry, cell biology, molecular biology, and genetics will become more important.

5. The student will be expected to use more statistics and critical thinking skills. Our Biostat class should be excellent preparation for that.
Pre-med students: you may be interested in how they rank medical schools. For the 2015 rankings go to the site below. There is also some useful information and links with tips on preparing for the MCAT and applying to a medical school. The average pre-med student applies to 15 schools. Some of the top rated "elite" schools have over 10,000 applicants and the average MCAT score of the students they accept is over 36! (The LSU averages are in the 29-30 range) Harvard Medical School has over 12,000 faculty to teach 700 med students! Their tuition is also extremely high!

http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-medical-schools

Before signing up for MCAT/DAT/GRE prep classes look into the different ones available. The two biggest are Kaplan and Princeton Review but there are others. These courses are good but expensive. Or you can study for it on your own. That is what I would recommend if you are a determined and self-motivated student (if you are pre-med you should be!!). **Study hard (200-300 hours recommended!)** for it using the numerous resources that are available for free or a fee (study guides, books, CDs, practice tests, etc) and then take a practice test and see how you do. Take as many practice tests as possible before taking the real test. If you do not score high enough then take a prep course and take the test again. Whatever you do, it will not work until you have taken your basic classes such as organic chemistry, cell biology and genetics, physics, etc. The test prep classes are not
designed to teach you that material but instead to help you review and relearn it and show you the ways it may be presented on the MCAT. That is why the Dean of the LSU Medical School recommended trying to finish the required classes in the first two years of college and then spending the junior year taking advanced biology classes and getting ready for the MCAT.

Some good free resources for studying for the MCAT/DAT/GRE:

Louisiana has a contract with Tutor.com to provide free services to any student in Louisiana (high school or college) with free tutoring and study skills including study materials and practice tests for the MCAT. To get there go to

www.homeworkla.org and create an account and password then in the site go to the Skills section and then go to:

**Standardized Tests Preparation > Graduate School Entrance Exams > MCAT** where you will find all kinds of study materials and practice tests.

Another good study resource for the MCAT:

http://www.studyguidezone.com/mcattest.htm
Biology majors (especially pre-professional students):

While on-line (Internet) classes can be convenient for many students and are usually taught with the same quality or even higher standards than on-campus classes, there are some considerations students should be aware of before enrolling in one. Several recent studies have shown that the failure rate nation-wide is higher for on-line (Internet) classes than for traditional classroom sections. The main reason is that in order to do well in an Internet class the student has to be self-motivated to work on the course at regular times just like they would for an on-campus class. Apparently many students cannot do this or have the mistaken belief that because the class is taught on-line it is going to be easier. Also, nation-wide there is concern over internet course integrity and a perceived high level of cheating in on-line classes.

Because of these concerns, some professional schools (including both LSU Medical Schools and Xavier Pharmacy School) will not accept certain required classes that were taken on-line. This mainly affects classes such as GBIO 151 and 153, English 101 and 102, and Chemistry or Physics. If you took any of those on-line you may have problems when applying to these schools. In that case you may have to repeat the course on-campus. However, Southeastern has a policy that if you made an A in a class you cannot repeat it, so that could create an even bigger problem. They do not care about classes that are not required, such as library science or Spanish.

Southeastern's transcript does not indicate whether a class was taught on-line or not. This brings up an interesting moral/ethical dilemma. If they ask the student whether any of their classes were on-line and the student is truthful, he or she may have to go back and retake the class to be admitted. But if the student does not admit it and gets accepted - one Dean told me if he finds out the student lied, he would kick them out of medical school even if they were in their third year.
Before you withdraw from a class read this:

You can withdraw from classes online using your LEONet account. Here is a link to the “How Do I?” sheet that explains the procedure: http://www.southeastern.edu/resources/howdoi/leonet/for_students/index.html

Please remember that for some classes, like labs, you may have to complete a paper withdrawal slip.

Please check with Records and Registration if you have any problems or questions.

You can contact Records at 985-549-2066.

If you are going to withdraw from a class, even after considering the implications (see below),

don’t wait till the last minute because there are situations where you can’t do it using Leo Net

and you would have to come on campus and get a paper withdrawal form signed in the Biology office

and take it to the Records office. In addition to the situations listed below, we are seeing students

who are enrolled in a lecture and lab (for example CHEM 121 and CLAB 123) and want to drop just

one of them but Leo Net won’t let them withdraw unless they drop both. In that case they have to

come to the Biology office and use the paper form to drop just one.

Before dropping the class the student should consider the possible implications. A grade of W does not affect the GPA so it is better than an F or D in that respect.

However, students should be careful about withdrawing because it can affect financial aid. TOPS and some scholarships and grants require the student maintain not only a certain GPA but also a certain number of earned hours andWs and Fs don’t count. From what I understand, more students lose TOPS because of not maintaining the required hours than lose it because of a low GPA. Some scholarships and grants require the student to maintain full-time status. If dropping a class puts them below 12 hours they could lose the scholarship or have to pay back some or all of the money (same for grants). So, in some cases getting a D might be better than a W. Contact the office of financial aid or the scholarship office if you have concerns or questions about
this. **Withdrawing** could also affect your housing and health insurance (see below).

Also, students need to be aware that if they plan on applying to a professional school or graduate school their transcripts will be scrutinized by the admission Deans or committees. We had a Dean of one of the medical schools here and he told the students that he regarded Ws as Fs regardless of what the actual GPA was because he assumed that the only reason a student would drop a class is if they were failing it. Also many employers are now looking at transcripts to see if the potential employee has good work habits and was able to persist through bad times. If they see too many Ws that gives them a bad impression of the person.

Because of these concerns and others (such as the fact that when a student takes a class and then drops it, they took a spot away from another student who could have used the class), the Faculty Senate voted to ask the administration to limit the total number of withdrawals a student may make during college to six. This is not in effect yet but may be soon. Other schools are already doing this. For instance, LSU only allows one W a year after the freshman year.

Students in any of the following categories will be restricted from withdrawing from any classes without first meeting with their advisor:

1. Students who are in their second semester and have not completed their developmental courses will have a withdrawal hold and must speak to their advisor before withdrawing from a class.

2. Student Athletes will have a withdrawal hold and must speak to their Athletic Academic Support Counselor before withdrawing from a class.

Also, students must receive permission from the department of the course before withdrawing from:

- SE 101 (Instructor’s Permission Required to Withdraw. The Instructor must contact the CSE so you can be authorized to withdraw online.)

- Student Teaching

*Students cannot withdraw from their last class online. You must complete a resignation form, which may be picked up in the Records and Registration Office located in the North Campus Main Building room 107.*
When you are considering withdrawing from classes, consider the following factors as you make your decision:

1. When residing in University Housing, you must maintain full-time enrollment (at least 12 hours of classes). Contact University Housing, 985-549-2118, to discuss your options and obtain further information on regulations to maintain eligibility for campus housing.

2. When receiving Financial Aid, withdrawing from classes or dropping below full-time enrollment (at least 12 hours of classes) may affect your eligibility to continue receiving Aid. Please contact Financial Aid to determine if your Aid will be affected, 985-549-2245.

3. When receiving Scholarships/TOPS, withdrawing from classes or dropping below full-time enrollment (at least 12 hours of classes) may affect your eligibility to continue receiving your Scholarship/TOPS. Please contact The Office of Scholarship Services to determine if your Scholarship will be affected, 985-549-5116.

4. Withdrawing from classes and dropping below full-time enrollment (12 hrs.) may affect your eligibility for health insurance if you are listed on your parents’ insurance. Check with the Insurance provider for more information.

Please be sure you are withdrawing from the proper course because once you withdraw from the course it is highly unlikely that you will be able to add the course back to your schedule. Be sure to double check before you click the button to withdraw from a class!