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November-December 2009

Syracuse University Biology Department

BioLog

A Newsletter for Biology Undergraduates

November - December 2009

SPRING 2010 REGISTRATION

See The End of *BioLog* for a list of Spring 2010 Courses
And Laboratory Wait List Guidelines

Early Registration for Spring, 2010 will begin **Wednesday November 11**. You need to obtain clearance from your advisor during the two weeks prior to the start of registration, or sometime between **October 28** and **November 11**, 2009. If you have not contacted your advisor, now is the time.

You can find up-to-date information on Spring Biology courses in the **Brief Descriptions for Spring Courses**. These are available in room 114 LSC and on the Biology Undergraduate Programs page: <http://biology.syr.edu/> Select the link to Undergraduate Studies.

Here are some reminders about important features of the undergraduate degree programs:

1. BS candidates need to be sure to complete one of the two Core concentrations, either Bio 326 and 327 or Bio 345 and another 300-level or higher course in the Core area of Ecology and Evolution (approved by petition). Bio 346 is no longer offered, so the second Core course for this concentration must be approved by petition. BA candidates should take all four Core courses. Bio 327 will be taught next semester.

2. Two 3 credit hour laboratory courses are required for the BS as well as an additional laboratory experience. Biology 460 (Research in Biology) can be used for up to 4 credits toward the BS or BA degrees. Three of the credits can be used for one 3 credit hour lab, and the fourth credit can be used for the BS degree

"additional laboratory experience." Other labs that complete the "additional lab experience" next semester are Bio 300 (Anatomy and Physiology for Majors), Bio 409 (General Microbiology – 2 lab sections) and Bio 424 (Vertebrate Biology).

Next semester the 3 credit hour labs are: Bio 405 (Intro to Field Biology Lab), Bio 422 (Bioinformatics for Life Scientists), Bio 425 (Cell and Developmental Lab), Bio 455 (Physiology Lab), Bio 464 (Applied Biotechnology), Bio 465 (Molecular Biology Lab, two sections), and Che 477 (Biochemical Methods for Structural Biophysics).

3. BS candidates need to complete the communication skills requirement. Next semester these courses will include any section of Bio 421 (Junior/Senior Seminar) as well as Bio 428 (Capstone Seminar in Environmental Science), Bio 405 (Intro to Field Biology Lab), Bio 425 (Cell and Developmental Lab), Bio 455 (Physiology Lab), Bio 465 (Molecular Biology Lab) and Bio 464 (Applied Biotechnology). Any one of these courses will complete the requirement.

4. Any 300-level or higher course for majors beyond those required for the Core may be used as electives for the 22 total credits required for the BS upper division or the 12 total credits required for the BA upper division.

5. Seniors in the BS degree program with Focus on Environmental Science must take Bio 428 – Capstone Seminar for Environmental Science.

REGISTRATION METHODS

Seniors register first. This is important to be sure you meet all the requirements for your degree. Senior registration on time is particularly important for any lab courses because of limited enrollments.

Even though you should register as soon as possible, the labs will be closed after one student registers. This is done to be sure seniors have primary access to these limited enrollment courses. Be sure to add your name to the **Wait List** for a lab course during your registration time. Also, put your name on the wait list for a second choice for a 3 credit hour lab or a lab for the additional lab experience. Be sure each lab you select will fit your schedule. You will be contacted about registration for the lab only if you are on the Wait List.

Methods Used to Register Students in Labs

The Biology Department has developed Guidelines to manage advising and enrollment in all upper division labs in Biology. **Please see the end of *BioLog* for a copy of the Guidelines.**

How do you wait list?

Use the following steps (visit <http://its.syr.edu/myslice/help/> for a tutorial):

1) ENTER the class number. Complete enrollment sections for lab and recitations if required.

2) SUBMIT request.

3) ADD STATUS. You will see **ERRORS FOUND** in red. Click on the text Errors Found to resolve the error. Read the message then click CANCEL. You will return to the Add Class screen.

4) CLICK on the **OK to Waitlist?** Checkbox.

5) SUBMIT request

6) ADD STATUS will update to **SUCCESS/MESSAGES**. Click on the text to read the message.

Note that you will **not** be automatically enrolled into a waitlisted class. You must enroll after you are notified about your status.

Biology 123 AND Biology 124

Biology 123 is now a 3 credit lecture, and the laboratory is Biology 124 for one credit. Anyone who wishes to major in Biology should be sure to register for both Bio 123 AND Bio 124. Those who took Bio 123 when it was 4 credits are all set for major requirements.

Senior BS Degree Checklist

Anyone in the Biology BS programs can check their degree progress by using the **Biology BS Degree Checklist**. This can be found in room 114 LSC (to the left as you enter) and on our web site. It is a brief summary (one page) of all the requirements for the Biology BS degree. There is a separate checklist for the Biology BS with a Focus on Environmental Science.

All seniors who wish to receive a BS degree will need to use a checklist to petition for their degree in their last semester. Use it now to be sure of your courses to register, and keep it until next semester to hand in with your transcript and BS petition.

OPPORTUNITIES FOR UNDERGRADUATES

In this section we will provide lists of potential opportunities for study abroad, internships, research openings, etc.. We do caution that these come with no guarantees from the Biology Department; we cannot check on the quality of each item listed. This section is for your information and we strongly urge you to check into the details of any opportunity you find appealing to be sure that it meets your needs and expectations.

SCHOLARSHIPS AND FELLOWSHIPS

(Please ask Deborah Herholtz in room 114 LSC about information for any scholarships or fellowships listed in BioLog.)

For other information about scholarship opportunities, visit the Office of Scholarship Programs website at <http://financialaid.syr.edu/scholarships.htm> and the College of Arts & Sciences Advising Services scholarship link at <http://thecollege.syr.edu/student/scholarships.htm>.

REU stands for "Research Experience for Undergraduates." There are a large number offered throughout the United States in summer. Participation is a fantastic way to learn science, earn some money and improve your credentials for application to graduate or medical schools. Some are listed below. The next issue of *BioLog*, in January, will contain more. Application deadlines usually are in January, February and March. For many, you can apply soon.

You can search through a variety of REU programs at:
http://www.nsf.gov/crssprgm/reu/reu_search.cfm

Interested in genomics, bioinformatics, toxicology or marine physiology? Consider **The Mount Desert Island Biological Laboratory** on the coast of Maine. Fellowships for \$420/week are available for support over the summer. Funding is used for housing, travel, stipends, lab fees and supplies. Research groups represent 65 universities, medical schools and research institutions. You can get more information and apply on line at <http://www.mdibl.org/edu/reu/reu2.shtml>. The deadline is mid-January, 2010.

The **Organization for Tropical Studies** offers an REU in Field Ecology at the La Selva Biological Station in Costa Rica from June 13 to August 6, 2010. Applicants should have two semesters of upper level biology courses and one semester of college level Spanish. Travel and living expenses are provided plus a \$4,000 stipend. The deadline for application is January 31, 2010. For information visit: http://www.ots.duke.edu/en/education/under_summer_reu.shtml

Cold Spring Harbor Laboratory provides an REU in the areas of Cancer Biology, Neuroscience, Plant Biology, Cellular and Molecular Biology, Genetics, Macromolecular Structure or Bioinformatics. The stipend is \$4,000. The program is from June 6 to Aug 14, 2010. The deadline is Jan 15, 2010. Visit <http://www.cshl.edu/URP/application.html> for an application.

An REU in Syracuse is at **SUNY Upstate**. A \$3,000 stipend is paid and housing on campus. The program is from June 7 to Aug 13, 2010. The deadline is Feb. 15, 2010. Visit <http://www.upstate.edu/grad/programs/summer.php> for the web site.

The **Mayo Clinic** REU offers Student Undergraduate Research Fellowships for students with a GPA of at least 3.0 and an interest in a biomedical research career at a Ph.D. or M.D./Ph.D level. The fellowship award is \$5,000, but the most rewarding aspect of the program is the opportunity to learn how to do research at a leading biomedical facility. Visit <http://www.mayo.edu/mgs/surf.html> for more information and an application. The deadline is Feb 1, 2010.

The **Stowers Institute for Medical Research** of Kansas City provides a "Stowers Scholars Program" REU for juniors with at least a 3.5 GPA. The summer program is from early June to the end of July. Students work under the direction of a Stowers scientist and receive a

\$3,000 stipend. For more information or to apply visit <http://www.stowers-institute.org/ScientistsSought/training/scholarsprogram.asp>.

The **Gerstner Sloan-Kettering Graduate School of Biomedical Sciences** in New York sponsors a 10 weeks summer REU with a stipend of \$3,000 plus housing. The 10 week program starts the first Monday in June. For more information and an application go to: <http://www.sloankettering.edu/gerstner/html/54516.cfm>. Applications can be made now for a decision by March, 2010. The deadline is Feb. 1, 2010.

The REU at **The Department of Microbiology at The University of Iowa** has a \$3,900 stipend, free housing and a travel allowance. The program runs through June and July. The deadline for application is mid-February, 2010. For information and an application visit <http://www.uiowa.edu/microbiology/summer.shtml>

Albert Einstein College of Medicine provides a 9 week summer REU with a stipend of \$3,000. Applications dates will be available soon. For more information visit <http://www.aecom.yu.edu/phd/index.asp?surp>

Southwestern Graduate School of Biomedical Sciences in Dallas has a deadline of Feb 9, 2010 for an REU in a variety of areas of Biology (cancer, cell, molecular, biochemistry, immunology, microbiology). The stipend is \$4,000 with housing. Travel expenses are not included. For additional information visit www.utsouthwestern.edu/SURF

Woods Hole Oceanographic Institution offers Summer Student Fellowships for 2010 for those who have completed their junior or senior year. The program is for 10 to 12 weeks from June to August, and the fellowship is for \$432 per week with a travel allowance. Visit <http://www.whoi.edu/education/undergraduate/summer.html> for more details. The application deadline is Feb 15, 2010.

The **National Institutes of Health (NIH)** provides an interesting way to do research after

you graduate but before you apply to graduate or medical schools. It is called the **Post-baccalaureate Intramural Research Training Award**. Recent Bachelor degree recipients (e.g., seniors after graduation) are paid \$30,136 to spend a year at NIH working with researchers while they apply to graduate programs for the next year. (Just being there would be a great way to enhance an application!) For more information visit <http://www.training.nih.gov/student/Pre-IRTA/irtamanualpostbacAcademy.asp> Applications will be accepted from now through January 31, 2010.

The **Army Educational Outreach Program** is a way to consider a variety of research or internship programs. For information, visit <http://www.usaeop.com/> The deadline for applications for US Army Summer 2010 Research applications is December 5, 2009. Applications should be sent to Eileen Stempel, 303 Bowne Hall (443-5407).

Earthwatch organizes expeditions throughout the World to aid research in the field in a variety of disciplines. Academic credit is possible with Bio 460, but this possibility needs to be designed before an expedition in consultation with Dr. Kerr. For more information visit <http://www.earthwatch.org/aboutus/education>. Also, follow the links to the various expeditions to explore the opportunities.

Applications will soon be available for the **2009-2010 Remembrance Scholarships** here at SU. 35 scholarships of \$5,000 each will be awarded based on distinguished academic work, citizenship, and service to community. All applicants must be completing their undergraduate studies by December, 2009 or May, 2010. The web site is: <http://oira.syr.edu/ugs/Remembrance.htm>

Another scholarship offered here at Syracuse University of interest to Biology majors is the **Dooley Ornstein Reisman, Robert Charles Ornstein, and Lt. Adolph Ornstein Scholarship**. This is an annual \$3,000 scholarship to outstanding students with financial need planning to pursue a career in medicine and research. Sophomores and juniors majoring in Biology, Biochemistry, Chemistry

or Physics or who are designated Pre-Med are eligible. Contact Judy A. Bragg, 329 Hall of Languages (443-9396). The essay due date is at the end of February.

SU also offers the new **Engagement Fellowships** for new graduates. The fellowship provides employment for a year and tuition to cover graduate courses. Information sessions are planned for Wednesday, Nov 11 at Noon at 003 The Warehouse, Tuesday Dec 1 at 3:00pm at 347 Hinds Hall and Thursday, Dec 3 at 11:30am at 347 Hinds Hall.

2009-10 Mark and Pearle Clements Intern Scholarships here at S.U. make possible a few of the most important, unusual, and creative internships that otherwise would not be financially possible. Previous awards have ranged from \$2,500 to \$7,000. The application deadline is in January. For more information visit

<http://students.syr.edu/career/news/clements2009.htm> or contact Rhona Lee Jones, Career Services Internship Coordinator, 235 Schine (443-3616).

The Academic Committee of SU is seeking nominations of outstanding **seniors** (minimum GPA of 3.6) to be considered for recognition as **Syracuse University Scholars**. Nominations are made by the Biology Department and include a Nomination Form, Personal Statement, Current Resume, two Letters of Recommendation from faculty, Transcripts, a sample of the nominee's writing, and Creative Materials appropriate to the academic discipline. The deadline for all materials is the end of November. If you are interested, please see Deb Herholtz in 114 LSC for more information.

coming up...

Advising for Registration

Spring Registration
Pizza with the Chair
Thanksgiving break
Last day of classes
Reading days & Finals

Now - Wed 11/11

Wed 11/11 - Fri 11/20
Wed 11/11 @ 12:45 in 106 LSC
Wed 11/25 - Sun 11/29
Friday 12/14
Sat 12/19 until you leave

Spring 2010	BIOLOGY COURSE LISTING		Spring 2010	1102
123	Wiles	General Biology II		
		001 Gen. Bio. Lecture	Giff. Aud.	MW 12:45-2:05
		002 Gen. Bio. Lecture	Grant Aud.	MW 3:45-5:05
124	Wiles	General Biology II Lab M003-M026 (students enroll in 1 section per week):		
		3 sections	T	9:30-12:20
		3 sections	T	2:00-4:50
		<u>2 sections</u>	<u>T</u>	<u>5:00-7:50</u>
		2 sections	W	9:30-12:20
		3 sections	W	2:15-5:05
		<u>3 sections</u>	<u>W</u>	<u>5:15-8:05</u>
		3 sections	Th	9:30-12:20
		<u>3 sections</u>	<u>Th</u>	<u>2:00-4:50</u>
		2 sections	F	9:30-12:20
200	Wiles/Staff	Selected Topics: General Bio (consent required)		
		001	126 LSC	TBA TBA
		002	126 LSC	TBA TBA
		003	126 LSC	TBA TBA
217	Sweet	Anatomy & Physiology II		
		001 Lecture	HBC Kitt	MW 12:45-2:05
		002 Lab	310 LSC	T 8:00-10:00
		003 Lab	310 LSC	T 10:20-12:20
		004 Lab	310 LSC	W 8:00-10:00
		005 Recitation	300 LSC	M 8:00-9:20
		006 Recitation	300 LSC	Th 5:00-6:20
		007 Recitation	300 LSC	F 12:45-2:05
		008 Lab	310 LSC	W 10:35-12:35
		009 Recitation	200 LSC	Th 5:00-6:20
300	Sweet	Anatomy & Physiology II for Bio Majors:		
		001 Lecture	HBC Kitt	MW 12:45-2:05
		002 Laboratory	310 LSC	M 8:00-11:00
327	Erdman/Russell	Genetics & Cell Biology II	001 LSC	TTH 9:30-10:50
355	Tupper	General Physiology	105 LSC	TTh 8:00-9:20
360	Wiles	Biology Laboratory Assistant (consent of instructor required)		
405	Segraves	Intro to Field Bio Lab	306 LSC	TTh 2:00-3:20
409	Garza	001 General Microbiology	011 LSC	MWF 11:40-12:35
		002 Gen Micro Lab	208 LSC	MW 12:45-2:05
		003 Gen Micro Lab	208 LSC	MW 2:15-3:35
415/615	Fridley	Conservation Biology	214 LSC	TTh 12:30-1:50
419	Belote/Wolf	Jr/Sr Thesis Seminar	214 LSC	T 5:00-6:00
421	Faculty & topic as listed Jr./Sr. Seminar:			
	Starmer	001 Ecology & Evolutionary Biology	283 LSC	TTh 9:30-10:50
	Hemphill	002 Natural History of Medicinal Plants	156 LSC	TTh 9:30-10:50
422	Welch	001 Lec Bioinformatics for Life Scientists	300 LSC	M 12:45-1:40
		002 Lab " " " "	105 LSC	W 5:15-9:15
424	Kerr	001 Comp. Vertebrate Bio	214 LSC	MWF 11:40-12:35
		002 Comp. Vert. Bio Lab	306 LSC	M 2:15-5:30
		003 Comp. Vert. Bio Lab	306 LSC	W* 2:15-3:35
				* optional lab help section
425	Pepling	Cell & Developmental Lab	214 LSC	M & 12:45-1:40
			316 LSC	W 12:45-4:45
428	Ritchie	Capstone Sem: Environmental Science	435 LSC	T 11:00-1:30
455	Sweet	001 Sec Physiology Lab	011 LSC	T 2:00-3:20

	002 Lab	" "	310 LSC	Th	12:30-4:30
460 Staff		Research in Biology	(As agreed upon by faculty & student)		
464/664 Raina, S.	001 Sec	Applied Biotechnology Lecture	126 LSC	MWF	11:40-12:35
	002 Lab	Applied Biotechnology Lab	206 LSC	T	12:30-3:45
465/665 Raina, S.	001	Molecular Biology Lab	011 LSC	M &	12:45-1:40
			206 LSC	W	12:45-4:45
Raina, R.	002	Molecular Biology Lab	011 LSC	T &	12:30-1:25
			206 LSC	Th	12:30-4:30
490 Staff		Independent Study (proposal & consent required)			
495 Staff		Distinction Thesis in Biology	(Dept. consent - J. Belote or L. Wolf)		
499 Staff		Biology Thesis	(As agreed upon by faculty & student)		
501 Fondy		Biology of Cancer	105 LSC	TTh	9:30-10:50
503 Pepling/Maine		Developmental Biology	011 LSC	TTh	11:00-12:20
576 Chan/Cosgrove		Biochemistry II	011 LSC	MWF	9:30-10:25
615/415 Fridley		Conservation Biology	214 LSC	TTh	12:30-1:50
664/464 Raina, S.	001 Sec	Applied Biotechnology Lecture	126 LSC	MWF	11:40-12:35
	002 Lab	Applied Biotechnology Lab	206 LSC	T	12:30-3:45
665/465 Raina, S.	001	Molecular Biology Lab	011 LSC	M &	12:45-1:40
			206 LSC	W	12:45-4:45
Raina, R.	002	Molecular Biology Lab	011 LSC	T &	12:30-1:25
			206 LSC	Th	12:30-4:30
688 Staff		Biological Literature	(As agreed upon by faculty & student)		
690 Staff		Independent Study (with proposal & permission of instructor)			
700 Fridley/Erdman		ST: Graduate Research Seminars	106 LSC	T	3:30-4:20
787 Raina, R.		Functional Genomics	TBA	TBA	TBA
793 Fridley		Plant Ecology	TBA	TBA	TBA
795 Starmer/Uy		Speciation	TBA	TBA	TBA
997	Masters Thesis				
998	Degree in Progress (GRD)				
999	Dissertation				

Other Course Areas of Potential Interest to Biology Majors

College of Arts & Sciences: Chemistry, Anthropology, Earth Sciences; College of Engineering: Bioengineering & Neurosciences, Civil Engineering; College of Environmental Science & Forestry: Applied Mathematics, Environmental & Forest Biology

Revised 9/14/09

Academic Advising And Wait List Guidelines

The following from the Syracuse University web site enunciates the framework for advising in the Biology Department.

“Academic Advising is an essential component of a Syracuse University education.

The University is committed to providing the individual advice and assistance that students need at every step throughout their degree programs.

A successful system of academic advising is highly dependent upon a shared commitment of students, faculty, and staff to the process and the availability of timely, accurate information.

Students are responsible for scheduling, preparing for, and keeping advising appointments; for seeking

out contacts and information; and for knowing the basic requirements of their individual degree programs.

Students bear the final responsibility for making their own decisions based on the best information and advice available and, ultimately, on their own judgment.”

Wait List Guidelines

The following guidelines have been adopted by the Biology Department to ensure the fairest possible treatment of our majors as they attempt to enroll in our advanced Biology laboratory courses. Current demand each semester for our laboratory courses exceeds the capacity for the labs so we have instituted a wait list procedure for assigning students to laboratory sections.

All advanced lab (300 level and above) enrollments will be assigned from wait lists generated at registration. We are required to let one student, the first to register, enroll in each lab course; all others will be placed on wait lists.

It is the responsibility of each student to be aware of these guidelines. Lack of knowledge will not be a valid argument for avoiding the guidelines.

Goals:

1. To ensure that all Biology/Biochemistry majors are able to enroll in a timely manner in labs required for graduation
2. To allow students as much choice as possible of which labs they take.
3. To give our majors high quality laboratory experiences.

Constraints:

The primary constraint is the number of spaces available in lab courses each semester. This derives from limits on staffing- both faculty and TA.

Each lab section has a limit in number of students- generally 24.

Guidelines

We will follow the following guidelines in assigning students on waitlists to laboratory sections:

1. 3 credit upper division labs and 1 credit upper division labs will be treated as separate sets of wait lists, with each set subject to the following additional guidelines.
2. In consultation with their advisors, students will place their names on wait lists for a minimum of 2 lab courses for both the 1 and 3 credit labs (3 wait lists if they are trying to enroll in 2 3-credit labs in the same semester). Students should be sure the waitlisted lab(s) fit their schedule.
3. Students who appear on only one wait list or who have circumstances that **REQUIRE** a particular lab must provide to the Associate Chair a written, quality rationale for being given preference for that lab. Such quality rationales might include documented requirements for a post-graduate program or documented schedule conflicts for all other labs.

4. Students who only appear on 1 wait list and have not provided a quality rationale will be placed in a lab after students who appeared on at least 2 wait lists have been given permission numbers
5. 2-3 spaces will be left vacant in each lab until the start of classes for emergency cases.

Procedures, in order, for assigning students to labs from the wait lists:

1. Seniors with quality rationales will be given permission numbers for that lab; if the number of seniors in their last semester exceeds the capacity of the lab, then spaces will be allocated by lottery. Rationale for juniors to be given priority must include reasons they cannot take the course during their senior year.
 2. Seniors in their last semester or 7th semester seniors in the BS program who have not yet been able to enroll in a lab will be assigned next.
 3. If more seniors are on a wait list for a lab section than can be accommodated in the lab, then permission numbers will be assigned by lottery, except for those with a quality rationale who will have been admitted as a result of #1.
 4. Seniors not getting into one lab as a result of the lottery will be assigned to their other choice unless #1-3 above left no vacant spaces.
 5. We assume that 1-4 will take care of all seniors needing a lab to graduate. If that is not the case, then the remaining seniors will be assigned to a lab with open places meeting at the same time.
 6. Juniors will be assigned to labs that have open places. We will first put them in a lab in which they were on the wait list; if none is available we will offer a lab that does have space. Juniors meeting the prerequisites for a lab will be given preference for that lab.
 7. Open spaces in labs after 1-6 above will be offered to seniors who are on the wait list, but have already fulfilled all lab requirements for graduation.
 8. Permission numbers will be given out shortly after scheduled registration ends (about 7 days after registration starts) and must be used before the last day of finals in that semester. Unused permission numbers after that date will be invalid and cannot be reissued except following the rules in #9.
 9. Any open spaces available on the first day of class will be filled by the laboratory instructor from students still trying to get into the class by appearing at the first class of the semester. At this time preference will be given to seniors needing a lab to graduate, seniors in their 7th semester who have not taken a lab, and finally juniors.
 10. Any complaints about lab assignments **MUST** be registered before the end of the semester prior to the start of the lab.
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