

**2000 - 2001
ANNUAL REPORT**

**Division of
Biological Sciences**

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MAJOR ACCOMPLISHMENTS OF 2000-2001

The Introductory Biology courses (BIOL 1103, 1107, 1108) have reached near maximum enrollment. BIOL 1107 and 1108 (Introductory Biology for science majors) accounted for 1,438 students while BIOL 1103 had 2172 students and BIOL 1104 (Introductory Biology for non-science majors) had only 476 students. The latter enrollment is a significant drop and is probably due to the reduced requirements for biological sciences and competition from other 1000-level biological sciences courses. An unfortunate aspect of insufficient funds for college is that undergraduates are more involved in teaching laboratories of BIOL 1103 and 1104.

Teaching introductory courses such as BIOL 1103 and 1104 requires highly talented and well trained faculty who should teach these courses on a permanent basis. In previous years, Drs. Meagher, Barstow, Jaworski, Carroll, Puett, Shimkets and other department heads have suggested that consideration should be given to hiring one additional Divisional faculty member committed to teaching the introductory biology courses such as BIOL 1103 and 1104. This person would be a replacement for Prof. Alan Jaworski who passed away unexpectedly in January 2000. We are thankful to Dean W. Anderson for providing permanent funding for Dr. Norris Armstrong and for Dr. Peggy Brickman who teaches the BIOL 1103 and receives superb student evaluations. Likewise we are grateful to Dean W. Anderson for the permanent addition of Prof. Marshall Darley to teach BIOL 1104. He is also an excellent teacher and receives outstanding student evaluations. We have hired Prof. Norris Armstrong who previously taught at Carleton College to replace Prof. Alan Jaworski.

Division of Biological Sciences Departments and Head or Director

DEPARTMENT

HEAD OR DIRECTOR

Biochemistry

Dr. David Puett

Botany

Dr. Gary Kochert

Cellular Biology

Dr. Joe Crim

Ecology

Dr. Ron Carroll

Entomology

Dr. Ray Noblet

Genetics

Dr. John McDonald

Marine Sciences

Dr. Tim Hollibaugh

Microbiology

Dr. Duncan Krause

PROGRESS IN THE BIOLOGICAL SCIENCES DIVISION

The Division of Biological Sciences is an administrative unit with limited faculty lines budgeted within the unit. A principle function of the unit is to offer Biology core courses which are taught by faculty drawn from the various departments within the Division. All staff positions and the entire operating supplies and expense budget are used to support the Divisional course offerings. Consequently, many of the items requested in the Annual Report memo do not directly apply to the Division of Biological Sciences as a budgetary unit. The responses given here do reflect the instructional activity of the Division and quality of the faculty who teach in the Division core courses.

Special Accomplishments and Strengths

IDENTIFICATION OF CROSS-DEPARTMENTAL INITIATIVES

- Training grants in Mycology and Parasitology
- The Metalloenzyme Training Grant involves the departments of Biochemistry, Microbiology and Chemistry.
- The Institute of Ecology in the Franklin College and its faculty are derived from the departments of Botany, Entomology, and Cellular Biology and are highly interactive.
- Invitation by Howard Hughes Medical Institute to apply for an undergraduate grant. The Committee set up to apply for this grant involves all departments except Ecology.
- NSF Training Grant in Prokaryotic Diversity to the Microbiology Department.

PRINCIPAL AREAS OF SCHOLARSHIP

- There are no research grants in the Division. From the instructional perspective, all courses will be modernized and equipment obtained from external (and state funds) grants to update laboratory courses. The Division budget is presently underfunded by approximately \$20,000 per year for expendable biology laboratory supplies and \$105,800 for office and laboratory equipment upgrades. Included is a list of Equipment which will be needed to modernize the Division. (See Appendix)

Quality of Instruction for the Division Biology Core Courses

Table 1 exhibits the Biology course enrollment for Summer 2000, Fall 2000 and Spring 2001 (page 4). Table 7 shows the number of enrolled Biology Majors for Fall 2000 (page 14) and Table 8 for Spring 2001 (page 15).

LECTURES

- All but two faculty involved in Division teaching are on the Graduate Faculty. NO LECTURES IN DIVISION COURSES ARE DELIVERED BY GRADUATE STUDENTS.
- We have split our introductory biology offering into separate sequences designed for science majors vs. non-science majors. This involved developing new syllabi and lab exercises for each course in the two sequences. THIS ALSO INVOLVED THE RECRUITMENT OF DISTINGUISHED PROFESSORS TO TEACH THE LECTURE PORTION OF THE SEQUENCE DESIGNED FOR SCIENCE MAJORS. In the last years, these have been the following faculty: Profs. A. Darvill and D. DerVartanian (Biochemistry); R. Malmberg, M. Darley, B. Palevitz, and A. Jaworski (deceased-Botany); J. Crim and R. Damian (Cellular Biology); W. Anderson, J. Avise, J. McDonald, S. Wessler (Botany & Genetics).
- All faculty who teach division core courses are recruited and selected from the entire faculty in all Departments in the Division of Biological Sciences. As a consequence, we are able to staff our courses with the best teachers in the Division. Of the 15 faculty who have taught in the introductory sequences over the last three years, seven have received distinguished teaching awards.

LABORATORY COURSES

Program Size

It has been difficult to accurately predict enrollments for the 1000 level undergraduate Biology lab courses under the semester system. There was an increase in BIOL 1107 enrollment for the second year: 754 students enrolled in BIO 107/107L in 1997-98, 828 students enrolled in BIOL 1107/1107L during 1998-99, 857 students enrolled in BIOL 1107/1107L during 1999-2000 and 672 students enrolled in BIOL 1107/1107L during 2000-01. BIOL 1108/1108L enrollment peaked in the 1998-99 year at 860, 810 students enrolled in BIOL 1108/1108L during 1999-2000 and 6900 students enrolled in BIOL 1108/1108L during 2000-01. These enrollment changes reflect semester course requirements for many majors needing a science major sequence (Forestry, Health and Human Performance Studies, Science Education, Pharmacy and Animal Science for example). There was a decrease in enrollments for both of the Introductory Biology courses designed for non-science major students and can be directly attributable to the change in the semester core curriculum. The enrollment of students in BIO 103L during 1997-98 was 2019, 1815 students enrolled in BIOL 1103L during 1998-99, 1421 students enrolled in BIOL 1103L during 1999-2000 and 1418 students enrolled in BIOL 1103L during 2000-01. In BIOL 1104L, 1734 students enrolled during 1997-98, 514 students enrolled during 1998-99, 503 students enrolled in 1999-2000 and 295 students enrolled during 2000-01. Under the quarter system requirements, Arts and Sciences non-science majors were required to complete two quarters of a life science sequence with a lab course. There were only three sequences that fulfilled this requirement: BIO 103-104, BOT 121-122 and CB 220-221. In contrast, Arts and

Table 1. Division of Biological Sciences
 Course Enrollment for Summer 2000 thru Spring 2001

COURSE	SUMMER 00	FALL 00	SPRING 01
BIOL 1103	102	978	990
BIOL 1104	0	290	186
BIOL 1107	40	461	229
BIOL 1107H	0	61	35
BIOL 1108	63	252	393
BIOL 1108H	0	13	51
BIOL 1990	0	0	0
BIOL/ENTO 2010	0	324	327
BIOL 2990H	0	16	17
BIOL/BCMB 3100	125	306	245
BIOL 3110L	22	50	38
BIOL/GENE 3200	83	205	200
BIOL/GENE 3200H	0	0	15
BIOL/GENE 3210L	0	24	0
BIOL/CBIO 3300	28	0	56
BIOL/CBIO 3400	71	89	170
BIOL/CBIO 3410L	0	9	19
BIOL/ECOL 3500	38	172	122
BIOL/ENTO 3590	0	0	8
BIOL 3700	0	0	82
BIOL /CBIO 3800	0	0	47
BIOL 3900	5	3	13
BIOL 3900H	2	1	56
BIOL/GENE 4200	0	0	0
BIOL/ECOL 4261	7	6	4
BIOL/BTNY 4500	0	27	0
BIOL/GENE 4600	0	80	0
BIOL 4940	0	0	0
BIOL 4960	21	49	34
BIOL 4960H	12	13	10
BIOL 4970H	3	10	7
BIOL 4980H	1	4	2
BIOL 4990H	0	4	6
BIOL /CBIO 5040	0	11	0
BIOL/BTNY 6500	0	27	0
BIOL/BTNY 6550	0	0	35
BIOL/GENE 6600	0	12	0
BIOL/CBIO 7040	0	11	0
BIOL/CBIO 7050L	0	0	0
BIOL 8000	0	0	0
TOTAL	673	3508	3397

Sciences students under the semester system are required to complete one life science course of either three or four semester credit hours. This can be fulfilled from any of the BIOL, BTNY, ECOL and MARS courses designed for non-science majors. The finite student population is now split among a larger number of courses. Further, the allied health career students are no longer required to complete an introductory biology sequence prior to enrollment in the two semester Anatomy and Physiology sequence. Enrollment data are presented in Tables 2-6.

Curriculum Structure

Principles of Biology I and II (BIOL 1103 and 1104)

Biology 1103L is a one credit hour course which provides a hands-on exploration of topics relating to general principles of Biology. This laboratory course is specifically designed for the non-science student. An effort has been made to design labs that are directly applicable to daily life. Significant input from faculty members has resulted in a more investigative and applied approach to the non-science major curriculum ranging from Diet Analysis to DNA fingerprinting.

Biology 1104L is a one credit hour course that provides an inquiry-based, cooperative learning approach for non-science majors to the remarkable diversity of life that inhabits planet Earth. By the end of the semester, students will have developed an understanding of the scientific process as applied to aquatic ecosystems and should be able to: (1) identify organisms belonging to the major groups of life forms; (2) describe the behavior, mode of nutrition, principal characteristics and phylogenetic relationships of the major groups of organisms; (3) describe interaction of organisms with each other and with their environment; (4) describe the structure and function of the mammalian heart, renal system and sensory system.

The corresponding lecture courses, BIOL 1103 and BIOL 1104, are pre-requisites or co-requisites for BIOL 1103L and BIOL 1104L respectively. Students can elect to complete the lecture portion of the course without enrolling in the laboratory to fulfill core curriculum requirements if they complete a four-semester hour physical science course with a companion lab. The separation of the lecture from the laboratory courses has significant implications for the laboratory curriculum. It gives the students an option as to which lab course they want to take and when they want to take it. While the ideal model suggests that the lecture and laboratory content should be complimentary, close integration between the lecture and the laboratory sequences is no longer necessary. This will provide an opportunity for more diversity in developing new and innovative non-science major laboratory exercises for the future.

General Biology I and II (BIOL 1107 and 1108)

The Biology 1107 lab course consist of six 2-week units. During the first week of each new unit, the students learn a new protocol relating to the current lecture topic. After mastering the protocol, the students conduct 1.5 hour research experiments of their own design manipulating variables

of their choosing from the previous class protocol. Assessment consists of quizzes and experimental results for the first week of the unit and a formal experimental paper that presents their results in the context of their hypothesis the second week of the unit. Students are required to use outside literature sources in the discussion of their experimental results. The goal is that this approach will improve critical thinking skills and provide practice with technical/science writing.

The primary focus of the lab portion of the Biology 1108 course is at the organismal level, acquainting students with the wonderful diversity of life found on this planet. Therefore, most of the labs involve making observations on these diverse life forms; i.e., the labs are more qualitative than quantitative (although some quantitative experiments are included).

Student evaluations suggest that the introductory lab courses are well received (see Table 6). Graduate Laboratory Assistants (GLAs) are pleased with the smaller lab size (20 students per lab as opposed to 30 students under the quarter system). The smaller classes have several notable benefits: (1) students have only one instructor making it easier for both the student and the GLA to keep track of grades and absences; (2) GLAs get to know and interact more closely with their students; (3) the smaller class size provides increased flexibility for scheduling students needing to make-up a lab or remove an Incomplete grade; (4) the amount of equipment necessary for 20 students is less therefore reducing the cost of equipping the labs; (5) increases in the total number of lab sections offered has increased the flexibility of scheduling for students and staffing for GLAs.

Instructional Support Instructional Technology

The Division of Biological Sciences has established a World-Wide Web page to increase the efficiency of information delivery. Students can access course materials for all 1000 level laboratory courses at <http://www.biosci.uga.edu/almanac/>. The laboratory syllabi, GLA teaching assignments (including office hours, e-mail address and contact phone numbers), assignments and due dates and policy statements are all outlined on the web page for each course. Students have commented that they find this information very helpful. A subscription web page, *The Biology Place*, has been purchased by students enrolled in BIOL 1107 and 1108. Students who use this site find the simulations of cellular and molecular processes to be very insightful. Web sites of interest have been identified for the BIOL 1103 and 1104 lab topics. The 1104 lab has set up a bulletin board on WebCT where team members can communicate with each other prior to lab regarding the design of experiments. This site also contains base line data on biotic and physical factors of Lake Herrick as well as optional readings for each lab exercise and are listed in the lab manual with each exercise. Links to the sites are in place on the lab course home pages for the semester.

A network which links all of the GLA, faculty and staff e-mail addresses for each course, 110Nglas@bios.biosci.uga.edu, has been established. This network is used to send enrollment updates, dates for proctoring assignments, messages about the courses and to query other

instructors about such items as student attendance, assignment point values, etc. The BIOS network has been an efficient means of communication among graduate students housed within the eight departments on campus. The use of the file server has greatly reduced the amount of confusion and paperwork associated with the administration of a large program.

We would like to establish a web based e-mail program where the students simply click on their GLA's name or class time to sent their GLA a message. Increasingly, the graduate students report that their principle mode of communication with their students outside the class is via e-mail. We would like to simplify the process for students as they report that e-mail is less frustrating because many of the graduate students are housed in carrels or offices lacking phones.

Implementation of an Undergraduate Instructor Program

During the 2000-2001 academic year, three undergraduate students were hired to serve as lab instructors (ULA) in BIOL 1103 and BIOL 1107. In BIOL 1103, the ULA was paired with an experienced GLA who functioned as a mentor for the undergraduate student. In BIOL 1107, one ULA was a graduating senior majoring in Cellular Biology and the other was a nontraditional "undergraduate" instructor who had graduated but was waiting to attend Dental School. Each of these ULAs reported that the undergraduate instructor experience was exceedingly valuable. We are receiving applications from qualified undergraduate students who would like to have an opportunity to teach in our program for the 2001-2002 academic year.

Lab Safety and Right-to-Know

During the 1993-94 academic year, the University of Georgia implemented the Right-to-Know Program. This requires planning in the Division of Biological Sciences to be certain that we are in compliance with University regulation. The following programs are in place:

- A general safety meeting for all new GLAs was developed by the Environmental Safety Services in response to a request from the Division of Biological Sciences and the departments of Cellular Biology, Microbiology and Botany. The meeting is usually held before classes begin in the Fall and is tentatively set for August 15, 2001. Topics include GLA legal liability, fire and chemical safety and hazardous biological agents. This program is conducted by Environmental Safety Services with contributions from the Vice President of Legal Affairs Office. Written documentation of GLA attendance for this meeting is maintained in the staffing file in the Program Coordinator's office in compliance with Right-to-Know mandates.
- An itemized list of all of the chemicals in use in BIOL 1103, 1104, 1107 and 1108 labs by lab exercise is provided to each of the GLAs for the respective course assignment during the first organizational meeting. At this time, each GLA is instructed on the location and accessibility of the MSDS sheets for the chemicals on the list.

- At each laboratory prep session, chemical specific safety training is provided to the GLAs on a weekly basis. Specific cautions for handling and/or disposing of chemicals for that week's lab are covered.
- All GLAs are provided with an *Accident Report Form* and instructed on how to fill out the form and where to route it. Additionally, during the first GLA meeting, the locations of fire extinguishers, eye washes and first aid kits are pointed out. Information on how to handle any after hour emergency is covered.

External and Internal Funding for Lower Division Lab Courses

A high priority for the Division for the upcoming year is to solicit and secure additional funding for the laboratory program. These monies are used for curriculum development and equipment purchases reflecting shifting student enrollments from the non-science majors sequence to the science majors sequence. As new lab exercises are developed, new equipment may need to be purchased before implementation into the schedule of labs can occur. Room renovations are also high on the list. All of the Division teaching laboratories needs to be Ethernet wired. It is hoped that a combination of grant funding and publishing contract advances from the lab manuals will provide some to the necessary capital.

Summary

An effort to provide Arts and Sciences students with laboratory experiences incorporating new techniques and equipment has resulted in an improved lab course sequence. The Division has expanded the number of courses offered and increased the number of lab sections offered in the 1000 level courses concurrent with budget cuts. The additional new lab course offerings have increased student options for undergraduate lab experiences. Graduate Laboratory Assistants with the Division (see Table 8) are assigned to courses as a result of their past experience, content expertise and indicated preference. GLAs are given the opportunity to experience a variety of teaching assignments associated with the preparation and teaching of upper division lab courses and the opportunity to serve as a lecture assistant in upper division core curriculum lecture courses. Compliance with the University's Right-to Know has been in place since the Fall 1993 term. This program makes safety information accessible to all GLAs. The Undergraduate Instructor Program continues to provide the best undergraduate students with the unique opportunity to share their skills and perspectives in a lab class setting. Overall, there has been a positive impact on undergraduate laboratory instruction for the Division of Biological Sciences and this effect should continue for years to come.

The Biology Program and Advising Office

The Biology Program continues to grow in size due to the increase number of majors and the

addition of more activities. The Biology Program office continues to be a very busy place.

Table 2. Comparison of Lab Course Student Enrollment for Fall Quarter 1997 and Fall Semesters 1998-2000 by Course

Fall Quarter 1997			Fall Semester 1998			Fall Semester 1999			Fall Semester 2000		
Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections
BIO 103	774	22	BIOL 1103	985	27	BIOL 1103	660	33	BIOL 1103	660	33
BIO 104	471	21	BIOL 1104	225	19	BIOL 1104	309	14	BIOL 1104	187	11
BIO 107	325	11	BIOL 1107	498	11	BIOL 1107	577	32	BIOL 1107	461	27
BIO 108	Not offered	Not offered	BIOL 1108	309	16	BIOL 1108	255	15	BIOL 1108	251	13
BIO 205	17	1	BIO 205	No semester equivalent	No semester equivalent	BIO 205	No semester equivalent	No semester equivalent	BIO 205	No semester equivalent	No semester equivalent
BIO 311	24	1	BIOL 3110L	24	1	BIOL 3110L	25	1	BIOL 3110L	43	2
BIO/CB 331	2 (BIO) 9 (CB)	1	BIOL/CBIO 3410L Formerly BIO/CB 331	2 (BIOL) 7 (CBIO)	1	BIOL/CBIO 3410L Formerly BIO/CB 331	5 (BIOL) 14 (CBIO)	1	BIOL/CBIO 3410L Formerly BIO/CB 331	2 (BIOL) 9 (CBIO)	1
BIO 350	No lab component	No lab component	BIOL/ECOL 3500/3500L	50 (BIOL) 69 (ECOL)	9	BIOL/ECOL 3500/3500L	72 (BIOL) 73 (ECOL)	16	BIOL/ECOL 3500/3500L	49 (BIOL) 166 (ECOL)	12
BIO 371	13	1	BIOL3710L	No offered	Not offered	BIO 3710L	9	1	BIOL 3710L	Not offered	Not offered
BIO 503/703	14	1	BIOL/CBIO 5050I/7050I	1 (BIOL) 3 (CBIO)	1	BIOL/CBIO 5050I/7050I	2 (BIOL) 11 (CBIO)	1	BIOL/CBIO 5050I/7050I	16 (CBIO)	1
TOTALS 1998	1640 (BIO)	59	TOTALS 1999	2094 (BIOL)	85	TOTALS 2000	1635 (BIOL)	114	TOTALS 2001	1653 (BIOL)	100

Table 3. Lab Course Enrollment for Winter Quarter 1998 by Course

Winter Quarter 1998		
Course Number	Student Enrollment	Number of Lab Sections
BIO 103	656	22
BIO 104	495	20
BIO 107	329	11
BIO 108	195	9
BIO 311	23	1
BIO/GN 321	Course not offered	Course not offered
BIO/GN 421	8 (GN)	1
BIO 704	14	1
TOTALS 1998	1712	65

Table 4. Comparison of Lab Course Student Enrollment for Spring Quarter 1997 and Spring Semesters 1998-2000 by Course

Spring Quarter 1998			Spring Semester 1999			Spring Semester 2000			Spring Semester 2001		
Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections
BIO 103	589	22	BIOL 1103	718	33	BIOL 1103	660	33	BIOL 1103	660	33
BIO 104	574	23	BIOL 1104	289	14	BIOL 1104	194	11	BIOL 1104	108	6
BIO 107	100	4	BIOL 1107	330	17	BIOL 1107	280	15	BIOL 1107	211	12
BIO 108	325	11	BIOL 1108	471	24	BIOL 1108	491	25	BIOL 1108	391	23
BIO 311	24	1	BIOL 3110L	26	1	BIOL 3110L	35	2	BIOL 3110L	34	2
BIO/GN321	1 (BIO) 12 (GN)	1	GENE 3210L			BIOL/GENE 4210L	0 (BIOL) 16 (GENE)	1	BIOL/GENE 4210L	0 (BIOL) 18 (GENE)	1
BIO/CB 331	6 (BIO) 18 (CB)	1	BIOL/CBIO 3410L Formerly BIO/CB 331	6 (BIOL) 18 (CBIO)	1	BIOL/CBIO 3410L Formerly BIO/CB 331	6 (BIOL) 18 (CBIO)	1	BIOL/CBIO 3410L Formerly BIO/CB 331	5 (BIOL) 19 (CBIO)	1
BIO/ECL 350	No lab component	No lab component	BIOL/ECOL 3500/3500L	59 (BIOL) 61 (ECOL)	9	BIOL/ECOL 3500/3500L	31 (BIOL) 82 (ECOL)	10	BIOL/ECOL 3500/3500L	37 (BIOL) 121 (ECOL)	9
BIO/ECL 351	Not offered	Not offered	BIO/ECL 351	No semester equivalent	No semester equivalent	BIO/ECL 351	No semester equivalent	No semester equivalent	BIO/ECL 351	No semester equivalent	No semester equivalent
TOTALS 1998	1619 (BIO)	63	TOTALS 1999	1899 (BIOL)	99	TOTALS 2000	1697 (BIOL)	98	TOTALS 2001	1446 (BIOL)	87

Table 5. Comparison of Lab Course Enrollment for Summer Quarter 1998 and Summer Semesters 1999-2001 by Course

Summer Quarter 1998			Summer Semester 1999			Summer Semester 2000			Summer Semester 2001		
Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections	Course Number	Student Enrollment	Number of Lab Sections
BIO 103	Not offered	Not offered	BIOL 1103	112	6	BIOL 1103	101	4	BIOL 1103	98	4
BIO 104	194	7	BIOL 1104	Not offered	Not offered	BIOL 1104	Not offered	Not offered	BIOL 1104	Not offered	Not offered
BIO 107	Not offered	Not offered	BIOL 1107	67	5	BIOL 1107	40	3	BIOL 1107	Not offered	Not offered
BIO 108	81	3	BIOL 1108	80	6	BIOL 1108	64	4	BIOL 1108	58	3
BIO 331	23	1	BIOL 3110L	20	1	BIOL 3110L	19	1	BIOL 3110L	18	1
BIO/ECL 350	No lab component	No lab component	BIOL/ECOL 3500/3500L	6 (BIOL) 24 (ECOL)	4	BIOL/ECOL 3500/3500L	0 (BIOL) 33 (ECOL)	2	BIOL/ECOL 3500/3500L	Not offered	Not offered
TOTALS 1998	298	11	TOTALS 1999	285	22	TOTALS 2000	224	14	TOTALS 2001	174	8

Table 6. Summary of Student Lab Course Enrollment and Number of Lab Sections for Academic Years, 1997-2001

1997-1998 Academic Year			1998-1999 Academic Year			1999-2000 Academic Year			2000-2001 Academic Year		
Quarter	Total student enrollment	Total number of lab sections	Semester	Total student enrollment	Total number of lab sections	Semester	Total student enrollment	Total number of lab sections	Semester	Total student enrollment	Total number of lab sections
Fall	1640	59	Fall	2094	85	Fall	1635	114	Fall	1653	100
Winter	1712	65	Winter	N/A	N/A	Winter	N/A	N/A	Winter	N/A	N/A
Spring	1619	63	Spring	1899	99	Spring	1697	98	Spring	1446	87
Summer	298	11	Summer	285	22	Summer	224	14	Summer	174	8
TOTALS 1997-98	5269	198	TOTALS 1998-99	4278	206	TOTALS 1999-2000	3556	226	TOTALS 2000-01	3273	195

Table 7. Summary of Student Evaluations for the Introductory Biology Laboratory Courses, Spring Semester 2001

Evaluation Item Question	BIOL 1103L n = 740			BIOL 1104L n = 96			BIOL 1107L n = 178			BIOL 1108L n = 338		
	% +	% N	% -	% +	% N	% -	% +	% N	% -	% +	% N	% -
<i>Laboratory Instructor Evaluation</i>												
The lab instructor provides a clear explanation of the lab materials/experiments.	88%	5%	7%	98%	0%	2%	96%	3%	1%	93%	3%	4%
The lab instructor makes good use of the time allotted for the completion of the lab exercise.	84%	6%	19%	98%	1%	1%	99%	0%	1%	98%	1%	1%
The questions on the lab quizzes are fair and well written.	71%	12%	17%	86%	2%	12%	91%	3%	6%	85%	8%	7%
The assignment of grades for quizzes/reports is fair.	84%	8%	8%	95%	4%	1%	93%	4%	3%	89%	6%	5%
The lab instructor demonstrates knowledge of the subject matter.	93%	4%	3%	99%	1%	0%	100%	0%	0%	95%	4%	1%
The lab instructor behaved in a professional manner.	93%	4%	3%	100%	0%	0%	100%	0%	0%	97%	2%	1%
<i>Laboratory Course Evaluation</i>												
The laboratory activities help me understand the topics covered in lecture and on lecture exams.	77%	12%	11%	85%	9%	6%	69%	13%	18%	83%	9%	8%
After the laboratory activities are completed, I understand the concepts and purpose of the lab exercise.	75%	12%	13%	86%	12%	2%	80%	13%	7%	76%	14%	10%

% + is the sum of the percentage of respondents who “Strongly Agree” or “Agree” with the evaluation item.

% N is the percentage of respondents who express “No Opinion” with the evaluation item.

% - is the sum of the percentage of respondents who “Disagree” or “Strongly Disagree” with the evaluation item.

Table 8. 2000-2001 Teaching Assistants
Division of Biological Sciences

NAME	DEGREE	YEAR	INSTITUTION	DEPARTMENT
Albers, Gayle	BS	1994	Ohio University	Marine Sciences
Baker, Daniel	BS	2000	Ga. Institute of Technology	Biochemistry
Banks, David	MS	1995	University of Kansas	Entomology
Bien, Michael	BS	1994	Emory	Ecology
Bilger, Erika	BS	1999	Allegheny College	Entomology
Brown, Jason	BS	1994	University of Georgia	Cellular Biology
Brown, Patrick	BS	1998	Univ. of Tennessee	Cellular Biology
Chiao, Erica	BFA	1992	Temple University	Entomology
Cifaldi, Rebecca	BS	1997	Michigan State Univ.	Ecology
Davis, Rich	BS	1996	Boise State Univ.	Cellular Biology
Dedej, Selim	PhD	1989	AG Univ of Tirana	Entomology
Dieker, Stephanie	BS	2000	SE Missouri State	Marine Sciences
Dudeck, KathrynW.	BS	1995	University of Georgia	Marine Sciences
Dunphy, Brian	MS	1996	Michigan State Univ.	Botany
Ekman, Drew	MS	2000	Univ of Tennessee	Biochemistry
Esselman, Peter	BA	1994	Connecticut College	Ecology
Feingold, Lucy	MS	1993	Univ. of Delaware	Biochemistry
Ghaleb, Amr	MS	1995	Ainshams University	Cellular Biology
Gibson, Cathy	BS	1995	Duke University	Ecology
Glenn, Elizabeth	BS		Univ. of Georgia	Entomology
Goldstein, Jill	MS	1996	Univ. of South Florida	Ecology
Gu, Haiyan	MS	1999	China Med. Univ.	Cellular Biology
Haarbauer, Charla	BS	1999	University of Georgia	Botany
Hardin, Clyde	BS	1999	University of Georgia	Cellular Biology
Henderson, David	BS	1999	University of Utah	Botany
King, Paul	MS	1989	Univ. of Wisconsin	Biochemistry
Johnson, Brent	MS	1995	Marshall University	Entomology
Leach, Andrea	BS	1996	U of Texas at Austin	Botany
Long, Qi	BS	1998	USTC	Cellular Biology
Lowrance, Andrea	BS	1993	Georgia Southern Univ.	Botany
Madson, Stephanie	MS	1997	Oregon State	Ecology
McFarlin, Caroline	BSA	2000	Univ. of Georgia	Marine Sciences
McKenney, Anna	BS	1997	Millsaps College	Botany
Medlock, Amy	BS	1994	Erskine College	Biochemistry
Menendez, Laura	BS	2000	Florida International U.	Genetics
Merritt, Melody	BS	1998	Univ of Maryland	Genetics
Moore, Jennifer	BS	1999	Humboldt State University	Botany
Pardini, Eleanor	BS	1999	College of WM & Mary	Botany
Parsons, Doug	BA	1994	Univ of Central Florida	Ecology
Poore, Tim	BSC	1999	Florida Atlantic Univ	Biochemistry
Porubsky, Bill	BA	1998	INC - Chapel Hill.	Marine Sciences

Sharick, Amber	MFA	1999	Vermont College	Ecology
Shortman, Susan	BS	1982	Auburn University	Entomology
Singh, Harminder	MA	2000	Wayne State University	Biochemistry
Skelton, Laura	BA	2000	Hendrix College	Ecology
Sterling, Jason	BS	1996	McGill University	Biochemistry
Stirrett, Karen	BS	2000	Wake Forest University	Genetics
Story, Sherry	BS	1992	Fort Valley State	Biochemistry
Thazhath, Rupal	MS	1998	University of Bombay	Cellular Biology
Thomas, Zachary	BA	1991	Reed College	Ecology
Todd, Brian	BS	2000	University of Georgia	Ecology
Uhrich, Laura	AB	1994	Smith College	Ecology
Vindman, Cindy	BA	1997	State Univ. of NY	Genetics
Waters, Brian	BS	1998	University of Georgia	Microbiology
Whitehead, Sarah	BA	2000	Miami University	Genetics
Wilcox, Heidi	BS	2000	San Francisco State	Entomology
Wright, Joy	BS	2000	University of Georgia	Disc. Line-Biology

We are always trying to add new activities to our program that will further enhance each Biology Major's experience in our Program.

At least once a semester every Biology Major has to visit the Biology office. This happens because we require each student, who is physically able, to come by the office and make an appointment to see their advisor for registration purposes. We require the students to come by the office because it is felt that it is very important that our students are very familiar with the information, activities associated with the Program and University and the people who work in the office. Each student is assigned a permanent advisor with whom they meet until they graduate. We feel that it is important that the students have the opportunity to get to know a faculty member well and keeping the student with the same advisor allows for that to happen. I will change the student's advisor if the student so desires.

Always interested in finding meaningful opportunities for our majors we created the Biology Internship Course. This summer three students are receiving academic credit for their internship experience.

The Biology Major's list serve has been a great success. It allows us to get important or interesting information to our students quickly. It also allows the student to communicate with each other. In addition, we use the majors page on the divisions website to provide majors and interested students information about the major as well as careers and graduate school.

Joey Freeman, the new Degree Program Assistant for the Biology Program has brought some valuable experience to our program. He has a background in career planning and has added career planning and counseling activities to our office. He also offered a series of seminars on career development and personal development. Our students have eagerly taken advantage of his willingness to meet with them. In addition, Mr. Freeman is developing a Career Website for Biological Science Majors.

This year we held graduation receptions for Fall Graduates and Spring Graduates. Attendance at these receptions continues to grow. We had a third of the expected graduates and their parents and guests attend the fall reception along with faculty and administrators. In all, about 100 people attended. In the spring, about 250 people, including summer graduates and their guests, attended the Biology Graduation Reception. We have added a wonderful video to the reception's activities. It is a composite of pictures of the UGA campus and Athens community. In addition to honoring our majors, we now recognize students from other majors who have made an impact on the Biology Program. We will try to figure out a way to finance the ever-increasing expenses involved in providing our graduating students recognition for their hard work and the opportunity for their family and friends to meet with faculty and explore our building and facilities.

We continue to serve in an advisory capacity for the Biological Sciences Student Association. We provide them with advice and resources such as paper goods, drawing and writing supplies, typewriter, computer, copier and workspace in the Biology Program's office. The club had a busy, successful year. They sponsored a number of Programs meant to provide students with information as well as community service opportunities. The programs included a message therapist who spoke with the students about stress management, a program about Study Abroad opportunities, a speaker from the Food Science Department, Pharmacy,

Environmental Law, and a program about biotechnology and other programs. In addition, the club sponsored a family for Thanksgiving and Christmas, held a blood drive and coordinated a Biology team for Relay-for Life. In order to raise money, the club held pizza sales and developed a design for a club t-shirt, which they sell for \$12.00. The monies that they raise are used to provide refreshments for students and guests as well as for community service activities.

Dr. Palevitz, Coordinator of Biology advising has made contributions to the University and the major by serving on a committee that recognizes outstanding advisors and mentoring. He was also asked to be an inaugural fellow in the new Franklin Residential College. Dr. Palevitz also represents Biology at Freshman Orientation, Georgia Pre-view Days, and the SAC accreditation team evaluating advising. Both he and Mrs. Palevitz meet with prospective students and their parents who may major in Biology.

The Biology office is a busy place. We encourage and welcome our students and hope that their journey through the University and the Biology Major is made easier because of our support for them.

Bioscience Learning Center

The Bioscience Learning Center (BLC) is a student computing lab and learning facility dedicated to supporting courses offered by the Division of Biological Sciences and other courses in the field of biology. Christian Duncan has served as Program Coordinator and administered the BLC since October of 1999.

WHAT'S NEW THIS YEAR

This year introduces many changes in the BLC. The most visible changes include extensive renovations (see attached diagrams), new furniture, computers, and a new computerized sign-in system.

Phase I of the BLC's renovations began in September 2000 with the construction of a new office for Heath Tucker, the Division's Network Services Specialist. The new office layout improves upon the previous design, transforming poorly utilized BLC space into a highly visible and accessible office, ideally situated for managing the lab's computer resources.

Phase II renovations began in January 2001 after the BLC was approved for Small Renovation monies from Franklin College. This portion of the renovation took place while the BLC remained open to students. The goal of Phase II was to redesign Mr. Duncan's office, dividing it and creating a dedicated storage space for Audio/Visual equipment, while incorporating the same design goals used in the construction of Mr. Tucker's office. Both offices feature windows that look out into the BLC allowing constant monitoring of the lab.

Phase III renovations began during the Maymester session. The most notable improvements accomplished during Phase III are a new main counter—now situated directly across from the central entrance to the lab, a fresh coat of paint, and new carpeting. The central door was also modified to improve accessibility for disabled students.

Table 9. Undergraduate Majors
in Biology Fall 2000

			Total	
			N	%
Major	Degree Level	Degree		
0115 Biology	Baccalaureate	Bachelor of Science	659	68.93
	Unclassified	Non-Degree	8	0.84
	Major Subtotal		667	69.77
0906 Biology - PreDental	Degree Level	Degree		
	Baccalaureate	Bachelor of Science	7	0.73
	Major Subtotal		7	0.73
0907 Biology - PreMed	Degree Level	Degree		
	Baccalaureate	Bachelor of Science	266	27.82
	Unclassified	Non-Degree	4	0.42
	Major Subtotal		270	28.24
0908 Biology - PreVet	Degree Level	Degree		
	Baccalaureate	Bachelor of Science	12	1.26
	Major Subtotal		12	1.26
Total			956	100.00

Source: SIRS - Fall 2000

The University of Georgia
The Office of Institutional Research and Planning
Phone (706) 542-8832 - Fax (706) 542-0032 - E-Mail: irp@www.uga.edu

Table 10. Undergraduate Majors
in Biology Spring 2001

			Total	
			N	%
Major	Degree Level	Degree		
0115 Biology	Baccalaureate	Bachelor of Science	683	73.05
	Unclassified	Non-Degree	6	0.64
	Major Subtotal		689	73.69
0906 Biology - PreDental	Degree Level	Degree		
	Baccalaureate	Bachelor of Science	8	0.86
	Major Subtotal		8	0.86
0907 Biology - PreMed	Degree Level	Degree		
	Baccalaureate	Bachelor of Science	222	23.74
	Unclassified	Non-Degree	3	0.32
	Major Subtotal		225	24.06
0908 Biology - PreVet	Degree Level	Degree		
	Baccalaureate	Bachelor of Science	13	1.39
	Major Subtotal		13	1.39
Total			935	100.00

Source: SIRS - Spring 2001

The University of Georgia
The Office of Institutional Research and Planning
Phone (706) 542-8832 - Fax (706) 542-0032 - E-Mail: irp@www.uga.edu

Table 11. Biology Advisors for the Division of Biological Sciences

Norris Armstrong	2-1699	409B Bio Sci	Biology	
Bill Barstow	2-1684	403 Bio Sci	Botany	barstow@dogwood.botany.uga.edu
Clanton Black	2-1778	A314A Life Sci	Biochemistry	ccblack@arches.uga.edu
Peggy Brickman	2-1690	405A Bio Sci	Biology	brickman@arches.uga.edu
George Cain	2-5017	403 Bio Sci	Biology	gcain@cb.uga.edu
Daniel DerVartanian	2-1693	400 Bio Sci	Biochem	dervar@bmb.uga.edu
Marshall Darley	2-1797	1602A Plant Sci	Botany	darley@dogwood.botany.uga.edu
Karl Espelie	2-2278	421 Bio Sci	Entomology	espelie@arches.uga.edu
Mark Farmer	2-4080	156 Barrow Hall	Cell Biology	farmer@cb.uga.edu
Glenn Galau	2-1859	4504 Plant Sci	Botany	galau@dogwood.botany.uga.edu
Carol Hoffman	2-5016	403B Bio Sci	Biology	hoffman@arches.uga.edu
James Hollibaugh	2-3016	258 Marine Sci	Marine Sci	aquadoc@arches.uga.edu
Charles Keith	2-3331	361 Bio Sci	Cell Biology	keith@cb.uga.edu
Bob Matthews	2-2311	505 Bio Sci	Entomology	rmatthew@arches.uga.edu
Rodney Mauricio	2-1417	C426A Life Sci	Genetics	Mauricio@arches.uga.edu
Kojo Mensa-Wilmot	2-3355	607 Bio Sci	Cell Biology	mensawil@cb.uga.edu
Debra Mohnen	2-4458	145 CCRC	Biochemistry	dmohnen@ccrc.uga.edu
Mary Ann Moran	2-6481	106C Marine Sci	Marine Sci	mmoran@arches.uga.edu
Barry Palevitz	2-1784	1603 Plant Sci	Botany	palevitz@dogwood.botany.uga.edu
David Porter	2-1782	1414 Plant Sci	Botany	porter@dogwood.botany.uga.edu
Catherine Teare Ketter	2-1681	409B Bio Sci	Biology	cmscatk@arches.uga.edu
Janet Westpheling	2-1436	C426B Life Sci	Genetics	janwest@arches.uga.edu
Anna Eidvik	2-1412	Coordinator of Academic Advising		
Carol Roberts	2-1510	General Studies Advisor		
Michelle Garfield	2-5745	Acting Assistant Academic Dean		
Jayne Lackey	2-1528	Overrides		
Nancy Bray	2-1563	(Grad Check)		
Ms. Sweetser	2-5745	Course Change		
Joseph Freeman	2-8794	411 Bio Sci (Degree Prog. Assist.)	jfeeman@arches.uga.edu	
Francine Palevitz	2-1691	411 Bio Sci (Degree Prog. Spec.)	palevitz@arches.uga.edu	
Alan Langford, M.D.	2-1541	Pre-Med Advisor	alangford@franklin.uga.edu	

Table 12. Number of Advisees per Biology Advisor

<u>Name</u>	<u>Department</u>	<u>Number of Advisees¹</u> <u>Fall 2000</u>
William Barstow	Biology	28
George Cain	Biology	10*
Peggy Brickman	Biology	20
Marshall Darley	Biology	14*
Francine Palevitz	Biology	25*****
Debra Mohnen	Biochemistry	11
Clanton Black	Biochemistry	8
Daniel DerVartanian	Biochemistry	33
Karl Espelie	Entomology	108*****
Robert Matthews	Entomology	26
Charles Keith	Cellular Biology	35
Mark Farmer	Cellular Biology	5*
Kojo Mensa-Wilmot	Cellular Biology	Starts Fall 2001
Barry Palevitz	Botany	51
David Porter	Botany	19***
Glen Galau	Botany	25
Carol Hoffman	Ecology	20**
Rodney Mauricio	Genetics	20
Janet Westpheling	Genetics	23****
James Hollibaugh	Marine Sciences	10*

¹ This number of advisees was determined by counting the number of students who came through Francine Palevitz's office for the purpose of making an appointment to see their advisor for advising. Dr. Espelie's count was determined by Dr. Espelie, himself, as his students make appointments directly with him. Each advisor's number of advisees, determined by counting their advisee's appointments made in the Biology Office, varies somewhat each semester as some students might stay out of school for a semester or the student might have made appointments directly with their advisor. This would occur if the advising schedule did not work for them, or they came in to be advised after the formal advising period.

Mary Ann Moran	Marine Sciences	9
Catherine Teare Ketter	Marine Sciences	<u>24</u>
		523 students

* new advisors begin with a limited number of advisees

** will resign from advising but will advise present advisees until they graduate

*** also advises his department's majors

**** will be on sabbatical for a year; present advisees will have to be distributed among other advisors

***** mostly advises Honor students including some freshman

***** advises **new** students who miss the regular advising schedule; these students are assigned to a faculty advisor during the next advising period

During Phase II and Phase III of the renovations, a new circuit breaker box and integrated surge suppression system were installed in the BLC, providing abundant, reliable electricity. New computer tables from KI furniture were installed, allowing the BLC to accommodate 35 computer stations and 4 TV/VCR stations, up from 22 stations available before the renovations. Two of these 39 stations are modified to facilitate handicapped accessibility. Forty new chairs were also purchased to complete the rejuvenation of the computer stations. The old computer tables and chairs were given to the Department of Microbiology to outfit their departmental lab.

In September 2000, the BLC received an allotment of \$33101 from funds associated with Student Technology Fees. We used this money to purchase fifteen new computers—8 machines from IBM and 7 from Apple.

We had enough money left over to purchase two IBM InfoPrint 21 printers. This purchase fulfilled one of our top priorities. The two new printers replaced three HP aging LaserJet 4s and one Apple LaserWriter Select. The older printers were too slow to keep up with the demand placed on them by students. Before the purchase of the new equipment, students would often leave during high traffic times before picking up their printouts because they felt that the printers were too slow. The new printers have more powerful printer engines and generate 21 pages per minute—this more than makes up for the four printers they replaced.

When the BLC reopened on June 11, 2001, students were greeted by a new computerized sign-in system. Bryan McLucas—a technologically savvy faculty member from the College of Agriculture—contributed his technical expertise in helping us design this new sign-in system. An Apple iMac computer located on the main BLC counter invites students to enter their ID numbers, and to record the name of the class they are using the BLC to supplement that day. This innovative improvement in record keeping allows the BLC staff to more accurately plan future improvements.

USAGE STATISTICS

The following table details the usage of the Bioscience Learning Center during Fall 2000, Spring 2001, Maymester 2001, Summer Session 2001. These numbers reflect the students who actually signed-in—actual

<i>Term</i>	<i>Students Per</i>			<i>Operational Hours per Week</i>
	<i>Semester</i>	<i>Week</i>	<i>Day</i>	
Fall 2000	12119	808	162	58.5
Spring 2001	13476	898	180	58.5
Maymester 2001	Closed for Renovations			
Summer 2001 (June 11-29 only)	856	285	57	50.5

usage is higher. Unfortunately, some students continue to use BLC resources without signing-in. This is most often the case with students who exclusively use only the study tables.

Most students who utilize the computer resources of the BLC do so to access course materials on WebCT or other websites. Many other students use the office applications installed on each machine to prepare lab reports or presentations for their courses. In addition, there are a few installed programs that assist students with coursework or career preparation (RasMol and Chime for Biochemistry, Diet Analysis software, DAT sample exams, etc...).

While the majority of students who use the BLC are enrolled in the 1100 level Biology courses, a substantial number of students enrolled in other courses take advantage of BLC resources. The most often seen courses were: CBIO 2200-2210, BCMB/BIOL 3100, CBIO/BIOL 3400, CBIO 3800, MIBO 2500, MIBO 3500, GENE/BIOL 3200 and ENTO 4000/6000. There were also a small number of students from non biology-related courses (i.e. ENGL, CSCI, CHEM, etc...) who used the BLC during FY 2001.

COMPUTER INVENTORY

As of the end of FY 2001, the Bioscience Learning Center has 24 computers available for student use. The breakdown of computers is as follows:

<i>Manufacturer</i>	<i>Model</i>	<i>Specifications</i>	<i>Count</i>
IBM	Netvista	Pentium III-800 / Windows ME	8
Dell	Dimension	Pentium II-300 / Windows NT	1
Dell	Optiplex	Pentium II 400 / Windows NT	3
Apple	G4 Cube	PowerPC G4 450 MHz / Mac OS 8.5	6
Apple	iMac	PowerPC G3 333 MHz / Mac OS 9.1	6

The BLC also has two Xerox 5645 analog copiers available for student use.

OTHER INVENTORY

The BLC maintains audio/visual equipment for use in Biology-related classes. At present, the BLC has 3 TV/VCR Carts (one with a LaserDisc Player), 2 slide projectors (newer models purchased this year), 2 overhead projectors, and 1 16mm film projector.

INCOME SUMMARY

The BLC charges students for various services that it provides. This money is deposited into account 10-11-DH-165-003, the Bioscience Learning Center Sales and Service (BLCSS) account. This money helps pay the salaries of student workers and other expenses involved in running the learning center. The table below shows the current price structure in use at the BLC:

<i>Service</i>	<i>Price</i>
Laser Printouts	\$0.05
Photocopies	\$0.10
Laminating	\$0.50-\$0.90

Transparencies	\$0.55
Floppy Disks	\$1.00
BCMB 3100 Notes	\$5.00
Zip 100 Disks	\$14.00

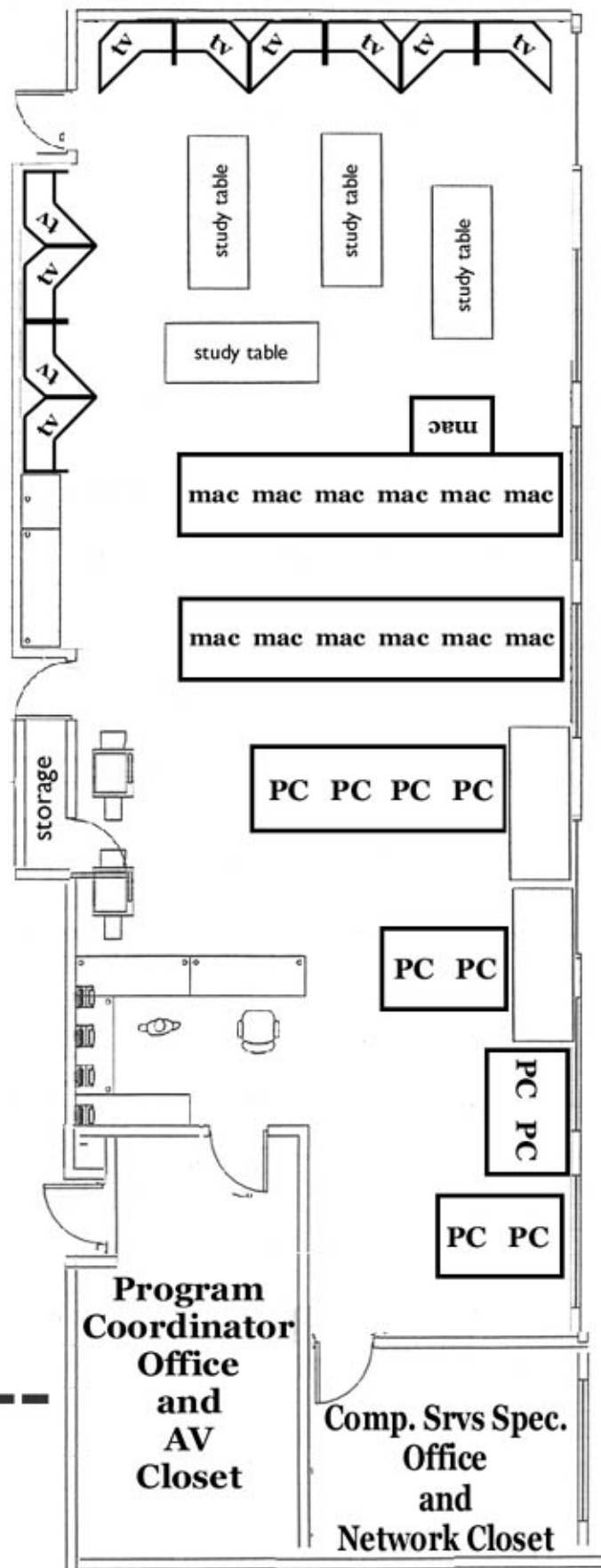
During FY 2000, the BLC generated \$9207.00 of revenue based on deposits made to the BLCSS account. This represents a decrease of \$959.32 (-10.4%) over the previous year. While this is not generally taken as a positive sign, the drop in yearly revenues was expected due to the lab being closed on several occasions for construction. Also, we saw lowered student traffic in the BLC during the construction due to the high noise levels.

FUTURE PLANS

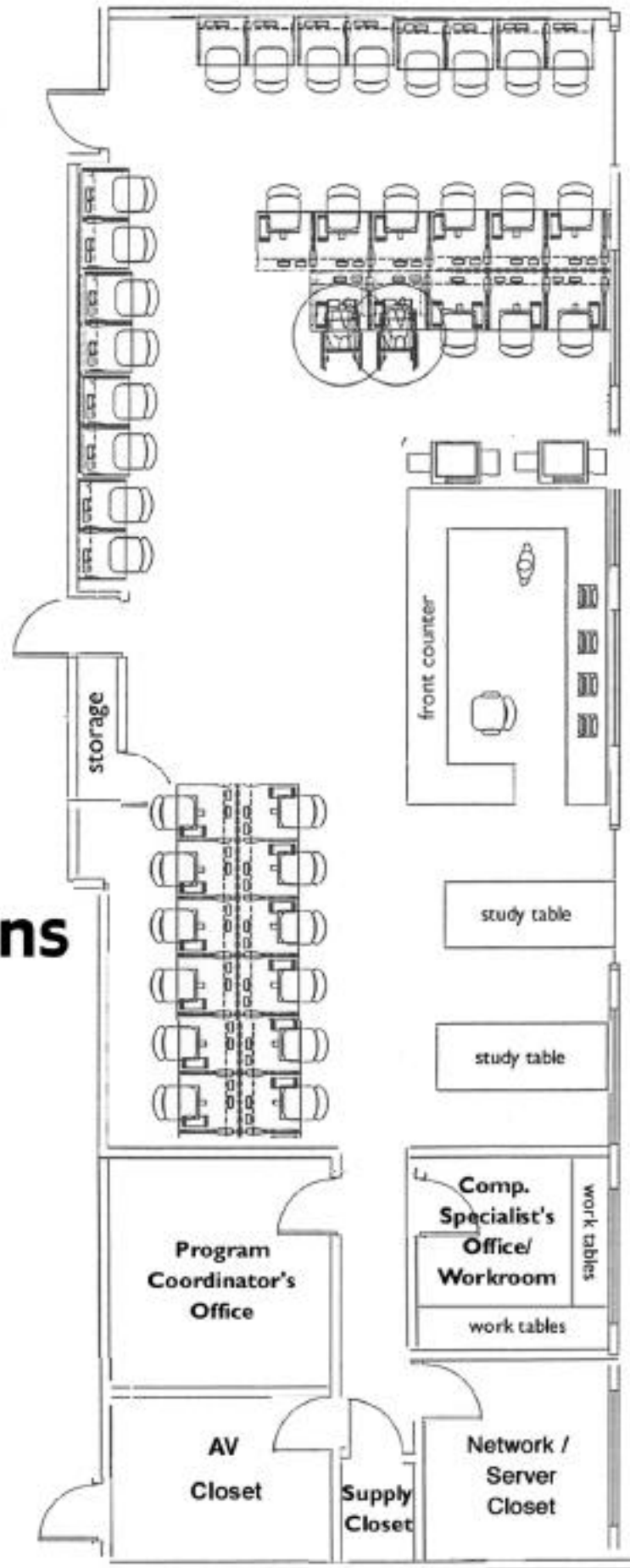
The future promises to bring even more innovation to the BLC. Exciting plans on the horizon include digitally streaming recorded lectures within the familiar context of web-browsers, and the development of learning-modules tailored to enhance the instruction of key concepts in every biology class. As the remainder of the information available in the BLC is digitized, we can combine and refine the material in ways previously impossible. This new flexibility will allow us to deliver instruction to students more effectively than ever before.

Bioscience
Learning
Center

--BEFORE--



The BLC after renovations



**External Research Grants for Departments in the Division of
Biological Sciences for 2000-2001**

Unit	Amount
Institute of Ecology	2,162,296
Biochemistry & Molecular Biology	9,215,147
Botany	3,133,401
Cellular Biology	3,030,439
Entomology	1,809,893
Genetics	2,878,213
Microbiology	3,161,535
School of Marine Programs	4,697,180
TOTAL	\$30,088,104

FY 2001 - Issued U.S. Patents

- 6,103,511 - Lichenase and Coding Sequences, Lars G. Ljungdahl and Xin-Liang Li, Department of Biochemistry and Molecular Biology
- 6,110,720 - *Orpinomyces* Cellulase CelE Protein and Coding Sequences, Xin-Liang Li, Lars G. Ljungdahl and Huizhong Chen, Department of Biochemistry and Molecular Biology
- 6,114,158 - *Orpinomyces* Cellulase CelF Protein and Coding Sequences, Xin-Liang Li, Lars G. Ljungdahl and Huizhong Chen, Department of Biochemistry and Molecular Biology
- 6,129,917 - Immunogenic Compositions Comprising *Porphyromonas gingivalis* Proteins and/or peptides & Methods, James Travis and Jan Potempa, Department of Biochemistry and Molecular Biology
- 6,146,849 - Lectins and Coding Sequences, J. Michael Pierce, Kelley W. Moremen and Jin Kyu Lee, Department of Biochemistry and Molecular Biology
- 6,159,309 - Insecticidal Compositions and Methods, Lois K. Miller, Department of Entomology, Nancy C. Fleming, Peter M. Dierks and Bruce C. Black, American Home Products
- 6,184,018 - Beta-Glucosidase Coding Sequences and Protein from *Orpinomyces* PC-2, Xin-Liang Li, Lars G. Ljungdahl, Huizhong Chen and Eduardo A. Ximencs, Department of Biochemistry and Molecular Biology
- 6,184,980 - Fiber Optic Sensor for Petroleum, James J. Alberts, School of Marine Programs, Chris W. Brown, University of Rhode Island
- 6,190,189 - Cellulases and Coding Sequences, Xin-Liang Li, Lars G. Ljungdahl and Huizhong Chen, Department of Biochemistry and Molecular Biology
- 6,235,278 - Biological Insect Control Agens Expressing Insect-Specific Toxin Genes, Methods and Compositions, Lois K. Miller, Department of Entomology, Bruce C. Black and Peter M. Dierks , American Home Products
- 6,245,504 - Transducing Phages, Janet Westpheling and Julie A. Burke, Department of Genetics

OVERALL HEALTH OF THE BIOLOGICAL SCIENCES UNIT

The Division monitors student evaluations and grade analysis of the biology courses in order to identify trouble areas. For example, it became apparent that BIOL 1108 exhibited a considerably lower GPA than all other 1000-level Biology courses. BIOL 1107 in contrast had consistent course GPA's and effective student and peer evaluations. A meeting of all instructors in BIOL 1107 and 1108 was recently convened and concluded that three instructors in BIOL 1108, or any 1000 level course, were too many. Henceforth all 1000-level Biology courses will be taught by a maximum of two instructors. BIOL 1107 and BIOL 1108 now both exhibit consistently uniform student evaluations and course GPA's (Appendix, IRP Course Review Book; Biology).

Table 11 shows the list of advisors from each Department in the Biological Sciences. It is a serious concern that it has been very difficult to find faculty advisors from some departments and especially from Ecology. It may be necessary to readjust TA's to various departments in relation to their contributions to both advising and instruction in the 1000-level course.

Enhancement of biology majors studies and life: A graduation ceremony was organized in December, 2000 and May, 2001 at which all parents and graduating biology majors were invited. Certificates were awarded to each graduating senior on an individual basis. A reception was presented (thanks to the Developmental Office and Tom Dyer, Vice President for Academic Affairs) to seniors and their parents and family. All those who attended commented that it was an outstanding event.

Assessment of graduating seniors was performed by two types of questionnaires. Out of the 150 graduating seniors about 60 (40%) responded. The first questionnaire inquired about the graduating senior's short and long term goals. The results are tabulated in the Appendix. Generally students were applying to professional schools, or had applied, or were actively looking for jobs. Professional schools included Medical, Veterinary Medicine, Dentistry, Perfusion, etc. A second questionnaire asked whether they were interested in Graduate School. This information is found in a Table in the Appendix. The response rate of 40% + was reasonable but we hope to improve this still further. One of the factors for the better response rate is the graduation ceremony. Students and parents prefer the individualized ceremony rather than the University's generic form.

Appendices

Appendix A
IRP Course Review Book: BIOLOGY

**GRADE ANALYSIS BY INSTRUCTOR WITHIN COURSE ID
Fall, 2000 & Spring, 2001**

Course ID	Instructor Name	% A	% B	% C	% D	% F	% WF	% W	% Other	Course GPA	#
BIOL1103	BRICKMAN	45.6	26.4	13.6	6.8	2.4	.3	4.4	.2	3.10	1969
BIOL1104	DARLEY	22.8	26.0	23.5	11.3	8.8	.0	7.3	.0	2.46	476
BIOL1107	BARSTOW	18.9	38.9	24.0	6.7	2.0	.0	8.8	.3	2.72	295
BIOL1107	DERVARTANIAN	28.0	30.0	21.4	6.6	3.3	.0	8.5	1.9	2.81	210
BIOL1107	MALMBERG	15.1	27.5	27.5	10.8	4.8	.0	9.1	4.8	2.43	185
BIOL1107H	ARNOLD	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	11
BIOL1107H	DERVARTANIAN	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	13
BIOL1107H	DURE	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	11
BIOL1107H	ESPELIE	93.3	.0	.0	.0	.0	.0	6.6	.0	4.00	30
BIOL1107H	IVARIE	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	10
BIOL1107H	YORK	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	21
BIOL1108	BARSTOW	16.5	43.8	25.0	5.1	4.2	.0	4.7	.4	2.66	212
BIOL1108	DARLEY	15.4	33.4	27.1	10.1	3.9	.0	9.2	.6	2.51	434
BIOL1108H	BARSTOW	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	13
BIOL1108H	CAIN	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	26
BIOL1108H	ESPELIE	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	25
BIOL2010	ESPELIE	77.9	16.1	2.9	2.9	.0	.0	.0	.0	3.69	68
BIOL2990H	ESPELIE	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	33
BIOL3100	BLACK	15.3	19.2	23.0	7.6	7.6	.0	7.6	19.2	2.36	26
BIOL3100	DERVARTANIAN	21.8	40.6	18.7	4.6	4.6	.0	9.3	.0	2.77	64
BIOL3100	MENDICINO	26.1	28.5	21.4	2.3	4.7	.0	16.6	.0	2.82	42
BIOL3200	ARNOLD	13.6	34.0	20.4	15.9	.0	.0	15.9	.0	2.54	44
BIOL3200	KUSHNER	7.1	21.4	32.1	10.7	7.1	.0	21.4	.0	2.13	28
BIOL3200	PROMISLOW	10.3	31.0	43.1	3.4	3.4	.0	6.8	1.7	2.45	58
BIOL3300	CAI	12.5	62.5	18.7	6.2	.0	.0	.0	.0	2.81	16

BIOL3400	EISNER	.0	33.3	40.0	20.0	.0	.0	.0	6.6	2.14	15
BIOL3400	GAERTIG	9.0	18.1	40.9	13.6	.0	.0	13.6	4.5	2.27	22
BIOL3400	KEITH	20.0	20.0	16.6	16.6	.0	.0	23.3	3.3	2.59	30
BIOL3500	BARRETT	18.9	40.5	16.2	10.8	2.7	2.7	8.1	.0	2.61	37
BIOL3500	RICHARDSON	34.6	42.8	10.2	4.0	2.0	.0	4.0	2.0	3.10	49
BIOL3700	MATTHEWS	29.2	42.6	10.9	2.4	7.3	.0	7.3	.0	2.90	82
BIOL3800	KARWOSKI	30.7	15.3	42.3	.0	.0	.0	7.6	3.8	2.86	26
BIOL3900	EISNER	63.6	27.2	9.0	.0	.0	.0	.0	.0	3.54	11
BIOL3900H	ESPELIE	100.0	.0	.0	.0	.0	.0	.0	.0	4.00	49
BIOL4500	SCANLON	8.3	41.6	16.6	8.3	8.3	.0	8.3	8.3	2.40	12
BIOL4600	MAURICIO	19.2	42.3	7.6	11.5	15.3	.0	3.8	.0	2.40	26

Appendix B
ACADEMIC AND PROFESSIONAL GOALS FOR
GRADUATING BIOLOGY MAJORS 2000-2001
 Data Collected From 60 of 150 Graduating Biology Majors

LAST	FIRST	IMMEDIATE/SHORT-TERM GOALS	LONG-TERM GOALS
Adley	Jennifer	Physical Therapy School	Physical Therapy Management
Bauman	Joshua	Part-time Summer Job	Marine Biology
Beck	Emily	Travel	Nursing School—Johns Hopkins
Begue	Marigny	Travel	Medical School-Dermatology
Bierbower	Sonya	Take a Year Off	Ph.D eventually
Black	Kim	Compete in World University Games	Medical Mission or Peace Corp
Boyd	Christy	Pharmaceutical/Medical Sales	Physician's Assistant School
Boyette	Keisha	Optical Lab Technician	Optometrist
Brown	Laura	Wedding/GRE	Working with Wildlife
Certain	Mathew	Work at Ski Resort	Medical or Law School or History Grad
Clanton	Colin	Playing all Summer Long	Anesthesiology
Connors	Rebecca	Sales Associate for Coca-Cola	Medical Sales
Cox	Erin	Vacation	Public Health Graduate Study
Crimmins	Stephen	Work to Save for Graduate School	Law
David	Allison	Medical School/Wedding	Pediatrics Practice
Dodson	John	Pharmaceutical	Climb the Corporate Ladder
Donthamsetty	Supriya	Public Health	Medical School/Political Activism
Edson	Neil	Medical School	Head Perfusionist
Eugenio	Margaret	Travel	Medical School and Practice
Garner	Brittney	Research Assistant	High School Science Teacher/Homemaker
Gartman	Sheila	Medical School	Orthopedic Surgeon
Goodbody	Gretchen	Internship at an Aquarium	Advance Degree in Marine Biology/Research and Conservation at an

			Aquarium
Gronfeld	Stacy	Work in a Veterinarian's Office	Veterinary School
Harben	Beth	Lab Technician	Graduate School in Biology
Helou	Marieka	Medical School or Research	Clinical Practice
Holloway	Betsy	Master's in Public Health	Medical School and Research
Hoover	Chad	Travel	Uncertain but includes family, travel, money
Jones	Cheryl	Job in Health Care/Teach Anatomy	Medical School
Kennedy	April	GRE/Graduate School in Public Health	Worksite Health Promotion or Public Administration
Kittles	Toriana	Nursing School	Masters in Nursing/Ph.D
Krisjanis	Kate	See the World	Save the World/Grad School/Law School
Lambert	Jessica	Nursing School	Nurse Practitioner in Women's Health
Lee	Danielle	Spend time with family/Graduate School	Agribusiness Industry
Lucus	Wynema	Gain Experience in Hospital Administration	Hospital Administration
McClurg	Sarah	Water Quality work in Ecology at the University of Georgia	Graduate School in Conservation Biology
Monroe	Charlie	Business Graduate School	Owning Several Media Outlets
Moss	Tanya	Employment perhaps in a Nutrition-related field	Pharmacist
Murnane	Aeneas	Choosing between Several Job Offers and Graduate Study	Study Behavioral affects on nervous and endocrine systems
Nguyen	Nhut	Assisting a Dentist	General Family Dentistry
Ooi	Heo-Jeng	Medical School	Missionary/Medical Services
O'Shea	Matt	Dental School	Dental Practice in Georgia
Pierce	Kali	Spend time with Family/Pharmaceutical Sales	Graduate School/Ph.D.
Pittenger	Lauren	M.S. in Food Science/Microbiology	Maybe a Ph.D.
Pittman	Jennifer	Veterinary Medicine	Get in Practice in South Carolina
Pitts	Cacee	Medical Assistant at Dermatology Office	Medical Career/Family
Potter	Kelvin	Graduate Study in Forensics	College Teaching

Presley	Luke	Dental Admission Test Preparation	Dental Practice
Ragan	Brandi	MBA	Biotech/Pharmaceutical Industry
Richardson	Carline	Moving Back Home	Teaching High School Biology
Rowe	Debbie	Travel in Central America	Work With Children in Cross Cultural Exchange Program
Salter	Monique	Employment in Lab or Healthcare	None specified
Stein	Samuel	Travel/Medical School	Become a Physician
Stern	Ilisa	Dental School	Dentist or Oral Surgeon
Tanner	Marc	Medical School	Medical Practice in Georgia
Thadhani	Chitra	Graduate School/Cellular Biology	Ph.D/Work in Industry
Tillery	Jerry	Business School/Hospital Administration Or Science Teaching	Medical Profession
Welch	Meredith	Medical College of Georgia	Emergency Physician
Williams	Derek	Medical School	Enjoy Life
Yeldey	Tabitha	Job/Don't Know	Medical School/Psychiatrist
Young	Paul	Medical School	Pediatrics/Global Health

BIOLOGY MAJORS GRADUATES 2000-2001
LONG TERM CAREER GOALS

	Total	Examples
Business	5	Medical Sales, Biotech/Pharmaceutical Industry, Agribusiness, Media
Dentistry	4	General Family, Surgery,
Education	7	Further Study in Biology, Law, History
Environmental	4	Marine Biology, Wildlife
Human Services	4	Medical Missionary, Peace Corp
Law	3	
Nursing	3	Women's Health,
Other	8	Homemaker, Cross Cultural Education, Enjoy Life
Other Medical	11	Physician Assistant, Public Health, Medical Missionary, Physical Therapy, Optometrist, Hospital Administration, Perfusionist
Physician	15	Surgeon, Anesthesiology, Pediatrics, Dermatology, Emergency
Pharmacy	1	
Research	5	Nervous and Endocrine
Teaching	2	High School, College
Veterinary	2	
Total	74	(More than 60 due to multiple career interests)

BIOLOGY MAJORS GRADUATES 2000-2001
SHORT-TERM PLANS

Employment	21	Part-Time Summer Job, Pharmaceutical/Medical Sales, Optical Lab Technician, Ski Resort, Sales Associate, Public Health, Research, Hospital Administration, Water Quality,
Graduate School (Other than Medical/Dental School)	14	Nursing, Public Health, Food Science, Veterinary Medicine, Forensics, Cellular Biology
Medical/Dental School	13	
Other	4	Don't know, Take a year off, Play all summer long
Travel	7	
Vacation	3	
Wedding	2	
Total	66	Total more than 60 due to multiple objectives

Appendix C

GRADUATION QUESTIONNAIRE FOR BIO MAJORS

The purpose of this questionnaire is two-fold. First, we'd like to know your immediate plans after graduation, and obtain some information that will allow us to contact you in the future. Second, we'd like to know your opinions of the BIO major and our advising system. Toward those aims, please take a few minutes to complete the following questions. To preserve the anonymity of your responses, please complete the questionnaire after your last advising session and return it to Francine Palevitz in Room 411 BioSciences in person, by campus mail, or email it to palevitz@arches.uga.edu. These forms will not be shown to your advisor, nor will (s)he be shown comments attributed to your name. We appreciate your help in improving our programs, and we wish you every success in the future. Please keep in contact and let us know what you are doing. You are in inspiration to our rising Biomajors.

Name _____ Student I.D. _____

Permanent Address _____

Date

Expected Graduation (Semester/Year)

1. What are your immediate plans following graduation? (e.g. professional school, job, Peace Corps, etc.). Please give us details about the school, program, degree objective, nature of job, name and address of company, etc.

2. What are your long-range plans?

Name_____

3. What do you feel was the most valuable part of your program/experience in BIO at UGA, and why?

4. What was the least valuable part of your program, and why?

5. Do you feel that our courses were helpful in securing a job or admission to professional school? Which courses were most helpful?

Name_____

6. Overall, do you think that the BIO major helped in your future endeavors? If so, how? If not, why not?

7. Do you think your BIO advisor was helpful? If so, how? If not, why not? Did (s)he provide adequate information and advice; was (s)he on time for appointments; did (s)he seem willing to give you her/his full time and attention?

Name _____

8. What suggestions would you make to improve the BIO major and advising?

9. Did you receive advising through the Franklin College of Arts and Sciences as a lower division or transfer student? If so, was it helpful in going on to the upper division as a BIO major? Did you receive satisfactory information about the B.S. degree requirements and the BIO major?

Name _____

10. If you were a transfer student from another Georgia State junior college, college or university, did you receive adequate information and advising while you were at that school about UGA's B.S. degree and BIO major requirements? Regardless of whether your answer is yes or no, please feel free to elaborate. Which school did you attend?

11. Please list other activities you were involved in here at UGA (i.e. sports, clubs, community volunteer [where], Olympics, etc.). Let us know of any leadership positions you held.

Name_____

12. Do you have any other comments/suggestions/feedback that you would like to pass on to us?

Again, we thank you for your help in improving our programs!

Appendix D

List of Lab Equipment, Computers, and Furniture Needs

Item	Cost
MacOS X Server 10.0 (software)	\$500
Apple WebObjects 5.0 (software)	\$100
IBM T84H 18.1" TFT LCD—for radiation sensitive employee	\$1,100
IBM NetVista x40i all-in-one, PIII866/512MB/30GB	\$1,800
Epson PhotoPC 3100Z Digital Camera - B144011	\$800
IBM ThinkPad A21p Mobile Pentium III 850 MHz	\$3,000
(2) Apple iBook w/CD-R	\$3,200
(10) Olympus phase/contrast microscopes	\$60,000
(4) IBM Infoprint 12 laser printers	\$1,900
(2) IFS Repeater, Storcase Tech. terminator modules	\$500
Apple Power Mac G4733 Super Drive DVD Authoring - Streaming Video Project	\$6,100
Storecase Tech Infostation RAID Module - Streaming Video Project	\$5,000
(6) IBM Ultrastar 73 LZX Hard Drives - Streaming Video Project	\$4,800
HP Procurve 1600M + 3 GB SX Modules - Streaming Video Project	\$3,200
(4) IBM T84H 18.1" TFT LCD	\$4,400
(4) Apple Pro Keyboard/Pro Mouse	\$400
(6) Apple iMac DV	\$5,000
(4) IBM NetVista x40i all-in-one	\$4,000
TOTAL	\$105,800