

## **COLLEGE OF AGRICULTURAL AND LIFE SCIENCES 2005 PROGRAM REVIEW**

### **1. Progress to Advance University's Strategic Plan**

The College of Agricultural and Life Sciences (CALs) seeks to enhance its key role at the University of Florida in meeting educational needs that cannot be met at other institutions. As a land-grant university the academic programs are conducted in concert with the Florida Agricultural Experiment Station and the Cooperative Extension Service, which serves to enrich the educational content and delivery of programs, enhancing our ability to be relevant and responsive. CALs faculty continue to receive recognition for excellence, with two (J. Jones and R. Reddy) of the five faculty chosen for the UF Doctoral Dissertation Advisor/Mentoring Award from CALs, and two (G. Kauwell and M. Olexa) of six selected for the UF Academy of Teaching Scholars. Elaine Turner was selected for the USDA Excellence in College and University Teaching Faculty Award bringing the total awards to 40 since 1990 and the most among all land-grant universities in the past five years. Jim Jones and P. K. Nair received recognition awards from the UF International Center for their work in International Programs. Thus, our students are advised and taught by committed, distinguished faculty that are recognized nationally and internationally. CALs focus is on student-centered programs that result in society-ready graduates.

To facilitate the Strategic Plan, CALs has assisted the School of Natural Resources and Environment (SNRE) to achieve integration in IFAS as the host, and it has supported SNRE in initiating a research and outreach dimension to its already strong university-wide academic programs in environmental sciences and interdisciplinary ecology. CALs made a contribution to the mini-grant program to provide seed funding to all faculty and to assist young faculty to start up their programs. These funds, coupled with those from other colleges, were matched by the Vice-President for Research and built from the base of funds provided by the Florida Agricultural Experiment Station. Further, CALs assisted SNRE with growing its very successful interdisciplinary ecology program by granting the School matching assistantship funds to extend its budgeted funds and those of faculty with grant support. CALs faculty are urged to be active in this interdisciplinary program and they have responded by advising the largest proportion of the graduate students in the SNRE. This change opened access for SNRE to CALs scholarships and student enhancement resources which should benefit SNRE recruitment.

Interdisciplinary programs, encouraged by the Strategic Plan, were further supported by CALs. Building on the outstanding success of the undergraduate minor in Plant Molecular and Cellular Biology and the graduate level interdisciplinary program by the same name, CALs has supported the development of an Animal Molecular and Cellular Biology program which would strengthen interaction among faculty in IFAS with those in the College of Liberal Arts and Sciences (CLAS), the Health Sciences Center and the College of Veterinary Medicine. This is a strong companion program to the emerging Genetics Institute which now includes much of the long-standing and successful Plant Molecular and Cellular Biology Program. The latter, if successfully implemented, will be a great stimulus to the university's interdisciplinary graduate programs and certainly benefit the CALs contribution to graduate education.

The College employs a variety of tools to meet the challenge placed on college to grow its graduate program. The use of matching assistantships to help faculty leverage funds from sponsors and for

faculty to extend the level of graduate student participation in their research projects has been one effective tool. Further, we try to facilitate the identification of undergraduates who might have the potential to excel as graduate students by encouraging them to participate in an internship program sponsored by the Florida Agricultural Experiment Station and by encouraging CALS faculty to participate in the University Scholars Program. One method for meeting efficiency goals set by the Strategic Plan is to invest in graduate programs that have the capacity to grow but do not require large investments to do so. We have done this by encouraging and enhancing graduate programs in Family, Youth and Community Sciences, Master of Agribusiness, and growing the novel Doctor of Plant Medicine Program. In the former, faculty and graduate students address issues relating to children and families and health considerations for the elderly and obesity in all age groups, high priority programs noted in the Strategic Plan. CALS has been active in expanding graduate offerings through distance education with the recent launch of the master degree in Agricultural Education and Communications to supplement the growing distanced education program in Agricultural Environmental Management.

CALS is further globalizing content of its programs by growing the Global Gator program, which offers international experiences (France, Costa Rica, Brazil, Czech Republic) to both undergraduate and graduate students. We were concerned about the impact of 9/11 and other factors on international student participation in graduate programs. We have examined the data and find that there was a decrease in applicants in 2004. This change in applicants reflected a modest decrease in the numbers actually enrolled in 2004 (Table 1). Although additional applicants could be received for Fall 2005, to date the number of applicants is already higher than last year. We are exploring, through the CALS Alumni and Friends organization, ways for improved connectivity with our international alumni as a potential aid to international recruitment.

**Table 1. CALS International Graduate Student Trends (2002 - 2005) for Fall Terms**

<u>Year</u>	<u>Number Applicants</u>	<u>Number Admitted</u>	<u>Number Enrolled</u>
2001	197	49	24
2002	199	57	29
2003	201	51	28
2004	181	48	23
2005	185	—	—

## 2. Progress In Hiring and Status of Searches

CALS has sought to sustain its cadre of dedicated faculty by hiring highly qualified new faculty and taking all steps possible to retain those who have demonstrated a high level of competence and commitment to academic programs. All faculty are encouraged to participate in teaching improvement workshops, short courses and seminars, especially courses on the use of technology to improve efficiency and reach through distance delivery. In CALS we sponsor an annual Teaching Improvement Symposium and a Graduate Student Symposium. In addition faculty are advised of the opportunity to take faculty development leave and to use it wisely to rejuvenate their energy level and bring new ideas to their programs.

New hires since January 2004 and their areas of contribution to our majors are in Table 2. These new faculty meet critical curricular needs and are also well-suited for mentoring graduate students even if

they are not directly involved in classroom teaching. Filling these faculty vacancies was critical to our programs because teaching faculty numbers were down last year for several reasons, including DROP. Notable among the new hires are three positions dedicated to the water resources in support of the Water Institute, and interdisciplinary defined as high priority by the President.. These will meet critical classroom teaching needs but also provide additional mentors for graduate students in a rapidly growing, high priority research area. With the hiring of the Conservation Geneticist, only one position remains to be filled by IFAS for its contribution to the Strategic Initiative in genetics.

**Table 2. Faculty Hires In 2004 By Department and Center**

<u>Name</u>	<u>Title</u>	<u>Department/School</u>
<b>A. ON CAMPUS</b>		
Correll, Melanie	Ast Pro	Agriculture & Biological Engineering
Unruh Snyder, Lori	Lecturer	Agronomy
Ferrell, Jason A.	Ast Prof	Agronomy
Ealy, Alan D	Ast Prof	Animal Sciences
Terry Houser	Ast Prof	Animal Sciences
Sally Johnson	Ast Prof	Animal Sciences
Mou, Zhonglin	Ast Prof	Microbiology & Cell Science
Hahn, Daniel Allen	Ast Prof	Entomology & Nematology
Sickman, James	Ast Prof	Soil & Water Sciences
Christman, Mary C	Ass Prof	Statistics
Chaparro, Jose	Ast Prof	Horticultural Sciences
Kabelka, Eileen A.	Ast Prof	Horticultural Sciences
Kistler, Mark	Ast Prof	Agricultural Education & Communication
Baugh, Eboni	Lecturer	Family Youth & Community Sciences
Brennan, Mark A.	Ast Prof	Family, Youth & Community Sciences
Fogarty, Kate	Ast Prof	Family Youth & Community Sciences
Kirst, Matias	Ast Prof	Forest Resources & Conservation
Giuliano, William	Ast Prof	Wildlife Ecology & Conservation
Havens, Karl	Chair & Prof	Fisheries & Aquatic Sciences
Porzeczanski, Ignacio	Lecturer	Center For Natural Resources
Sandrock, David R.	Ast Prof	Environmental Horticulture
<b>B. OFF CAMPUS</b>		
Bachelor, Jane	Lecturer	IRREC – Ft. Pierce – Food, Resource Economics
Sellers, Brent	Ast Prof	RCREC – Ona – Agronomy
Mores, Christopher	Ast Prof	FMEL – Vero Beach – Entomology/Nematology
Smartt, Chelsea	Ast Prof	FMEL – Vero Beach – Entomology/Nematology
Cushman, Kent	Ast Prof	SW FL REC – Horticultural Sciences
Rogers, Michael E.	Ast Prof	Citrus REC – Lake Alfred – Entomology/Nematology
Tillman, Barry L.	Ast Prof	NFL REC – Marianna – Agronomy
Mackowiak, Cheryl L.	Ast Prof	NFL REC – Quincy – Soil & Water Sciences

To further strengthen academic programs we are continuing to recruit highly qualified faculty that best meet our needs. The status of recruiting in this year is identified for each faculty position listed in

Table 3.

**Table 3. Positions Posted in 2004 to Recruit New Faculty**

<b>A. ON CAMPUS</b>			
Water Resources	Asst/Asso Pro	Water Resources	Interviewing
Water Resources	Eminent Sch	Water Resources	Offer made
Ag & Bio Eng	Asst Prof	Water Resources	Kiker
Ag & Bio Eng	Asst Prof	Waste Management	P. Pullamanapallil
Ent & Nem	Asst Prof	Vet Entomology	Kaufman
Ent & Nem	Asst Prof	Apiculture	Approved 7/1
Env Hort	Asst Prof	Landscape Ecology	Interviewing
Fisheries	Asst Prof	Stream Fisheries	Screening
FMEL	Asst Prof	Molecular Biology	Approved 7/1
Forest Res & Con	Asst Prof	Urban Forestry	Interviewing
Forest Res & con	Asst Prof	Urban Forestry	Andreu
Food & Res Eco	Lecturer	Resource Econ	Interviewing
Food Science			
Human Nutrition	Asst Prof	Nutritional Genetics	Screening
Hort Sciences	Asst Prof	Horticultural Sciences	Offer Made
Hort Sciences	Asst Prof	Plant Nutrition	Approved 7/1
Micro & Cell Sci	Asst Prof	Microbiology	Approved 7/1
Micro & Cell Sci	Asst In	Biology Education	Screening
Soil & Water Sci	Asst Prof	Env Soil Microbiology	Interviewing
Wildlife Ecology & Conservation	Asst Prof	Conservation Genetics	Austin
<b>B. OFF CAMPUS</b>			
Citrus REC	Asst Prof	Process Engineering	Reyes
Citrus REC	Asst Prof	Precision Agriculture	Ehsani
Citrus REC	Asst In	Virology	Advertising
Everglades REC	Asst Prof	Soils & Nutrition Mgmt	Screening
Ft. Lauderdale REC	Asst Prof	Aquatic Weeds Management	Advertising
Gulf Coast REC	Asst Prof	Plant Pathology	Approved 7/1
Indian River REC	Asst Prof	Aquaculture	Interviewing
Kennedy Space Ctr	Asst/Assoc Prof	Microbial Ecology	Interviewing
Tropical REC	Asst Prof	Env Soil Microbiology	Interviewing

### Enrollment Trends

Undergraduate student numbers have remained fairly stable during the last six years (2992 in 1999 vs. 3026 in 2004) while the numbers of graduate students has increased from 779 to 872 during that period (Table 4). Total international student numbers have shown modest growth with a slight decline in 2004.

**Table 4. CALS 6-year Enrollment History–1999 to 2004.**

	<b>Enrollment</b>					
	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Undergraduate	2992	2931	2794	2816	2897	3026
Graduate*	779	815	861	879	934	872
Total International-all	481	475	485	492	535	518

\* Not included are the 53 SNRE students advised by CALS faculty in 2004–up from 19 in 1999 nor the undergraduates in SNRE, all of whom are advised by CALS personnel.

Student credit hours data in the last two years show increased teaching to a stable undergraduate class and a stable number of graduate student credit hours to a slightly decreased graduate student enrollment (Table 4 and 5). Recent interactions with the department chairs and graduate coordinators suggest that graduate student numbers may be restored by the Fall 2005 enrollment.

**Table 5. CALS Student Credit Hours Changes in the Last Year.**

	<u>2003 - 2004</u>	<u>2004 - 2005</u>	<u>Δ%</u>
Undergraduate	78,313	82,036	4.75
Graduate	21,714	21,796	0.38
Total	100,027	103,832	3.805

### **3. Strengthening Departments/Programs**

Faculty support and new faculty hires will focus on those areas with graduate student growth potential. Growth appears more probable at least cost in the new Family, Youth and Community Sciences graduate program, the relatively new PhD programs in Agricultural Education and Communications, the novel Doctor of Plant Medicine Program that involves interdisciplinary cooperation among the departments of Plant Pathology, Entomology and Nematology, Soil and Water Science, Agronomy, and the Horticulture Departments. Stipend support should stimulate growth in these programs. In units with major thrusts in ecology and environment, especially water related issues; Agribusiness; Animal Molecular and Cellular Biology and the Genetics Institute, that address important interdisciplinary programs with large growth potentials new faculty are required. Also notable are the growing numbers of undergraduate students (100 per year) seeking economics curricula in the CALS Food and Resource Economics Department. Providing for these should be later reflected in graduate education opportunities. Thus, fiscal resources are to be mainly focused on graduate student growth programs, strong departments and programs that are on a trajectory toward higher rankings. We intend to strengthen programs involved in the interdisciplinary Water Institute. Another area of anticipated growth is in the tropical sciences where the University of Florida has a comparative advantage. These programs cut across several department/Schools: namely, Agricultural and Biological Engineering, Soil and Water Science, Forest Resources and Conservation and Wildlife Ecology and Conservation. Similarly, we expect to grow a strong core in Plant Sciences that combine resources in Agronomy, Plant Pathology and Horticultural Sciences. Demand for seats in introductory Microbiology and Cell Science courses for students in pre-professional biology tracks require additional resources to provide for the enrollment.

**Enrolment Growth Support of Programs.** Providing this support is proposed to come from the larger than expected growth in student credit hours last year that was not fully funded plus the growth this year (Table 5). For example in 03-04 CALS projected Graduate Student Credit Hours were 20,352 while the actual was 21,714—an increase of 1,362 SCH's at the graduate level alone (Table 6). The total growth in Student Credit Hours (UG plus G) this year was 3,805 SCH's (Table 5).

**Table 6. CALS Graduate Student Targets (see March, 2004 Program Report)**

	<u>02-03</u>	<u>03-04</u>	<u>04-05</u>	<u>05-06</u>	<u>06-07</u>	<u>07-08</u>
SCH Target	18,912	20,352	22,112	23,872	25,792	27,892
SCH Actual	18,823	21,714	21,798			
Head Count Target		955	1,044	1,128	1,219	1,316
Head Count Actual	943	1,020	961			

With international student applications up this year and graduate student recruitment vigorous and reportedly successful, CALS expects to reach its 05-06 target of 23,872 Graduate Student Credit Hours. The College has exceeded its undergraduate goals and continues to grow student credit hours (Table 7). Thus, the attached funding plan is to provide the faculty and support to meet the program requirements for this growth.

**Table 7. Undergraduate Student Credit Hours Relative to 2001 Target**

	<u>02-03</u>	<u>03-04</u>	<u>04-05</u>
SCH Target*	68,728		
SCH Actual	78,042	78,313	82,036

\* Target set in 2001 with objective of maintaining the undergraduate SCH with the principle goal to grow graduate SCH.

## DISCUSSION POINTS

1. **Goals for undergraduate education in next three to five years**
  - a. **Simplify portfolio of majors**
  - b. **Maintain stable enrollment**
  - c. **Continue to develop opportunities for international experiences**
  - d. **Expand the availability of internships for on-the-job experiences**
  - e. **Seek to increase the number of students pursuing combined degrees.**
2. **Goals for graduate education in next three to five years**
  - a. **Implement Animal Cellular and Molecular Biology major**
  - b. **Restore and grow head count**
  - c. **Continue the growth of student credit hours**
  - d. **Emphasize programs with least cost growth capacity (FYCS, MAB, AEC and various professional masters degrees) while strengthening traditional M.S. and Ph. D with emphasis on growth at the Ph.D. level**
  - e. **Help strengthen departments on course to national/international prominence.**
3. **Distanced Ed/Exec Ed programs. In place? New one being considered? On- and off-book?**

### **Graduate Distance Education Degree Programs in Place:**

**Entomology and Nematology**

**Soil and Water Science**

**Agricultural Education and Communication**

**Graduate Concentration: Community Development**

**All CALS DE graduate programs offer on book sections as well as off-book sections for use by a limited number of out-of state and international students.**

**CALS Undergraduate Off Campus Programs located in six sites state-wide use a combination of distance and on site delivery. All courses in the off campus programs are taught on-book.**

4. **How have you done diversifying faculty/staff in last twelve months?**

**In 2004, we added 13 faculty and 30 minority staff. Most faculty have a partial appointment to teaching. Similarly, the supervising faculty of staff also have research and/or extension assignments and do not have full time commitments to teaching..**

5. **How well do departments track Ph.D. students post graduation?**

**IFAS is currently implementing a new annual reporting system, UNIFAS, and we are exploring ways to enter a new field for Ph.D. supervisors to enter the status of their Ph.D.'s. This will provide a systematic structure for what is now an ad hoc and incomplete tracking process by our departments.**

# **CALS PROGRAM REVIEW:**

## ***PREPARING for the TRANSITION***

**College of Agricultural  
and Life Sciences**

**IFAS**

**University of Florida**

**December 2004**

**Revised**



**PROGRAM REVIEW: PREPARING FOR THE TRANSITION**  
**College of Agricultural and Life Sciences**  
**IFAS-University of Florida**  
**December 2004**

**1. Recent Major Achievements/Strengths**

The College of Agricultural and Life Sciences (CALs) is an educational leader in the areas of pre-professional training, food, agriculture, natural resources, and the life sciences nationally and at UF. CALs students are taught and advised by a distinguished faculty who are recognized nationally and internationally for their teaching, research, and extension expertise. As a college known for its student-centered focus, CALs prides itself on educating society-ready graduates.

CALs includes the School of Forest Resources and Conservation (SFRC) and the School of Natural Resources and Environment (SNRE). CALs offers four baccalaureate degrees: a Bachelor of Science (B.S.); a Bachelor of Arts (B.A. via the SNRE); a Bachelor of Science in Forest Resources and Conservation (B.S.F.R.C.); and a Bachelor's of Science in Geomatics. Twenty-four majors, approximately 50 specializations, and twenty-three minors are offered by the college. Academic programs in the college prepare many students for professional studies in dentistry, law, medicine, pharmacy and for graduate study in science and technology. Our academic programs prepare students for diverse and dynamic positions in business, communications, science, production and education as they relate to food, agriculture, human and natural resources, and life sciences.

Given these strengths, CALs has been instrumental in ensuring implementation of many aspects of the major proposals of the UF Strategic Plan. Identified in the plan as one of the four key colleges at UF, CALs has continued its efforts to provide a quality educational experience to its undergraduates and graduates in disciplines central to the mission of the university.

***Recent Curriculum Developments***

In 2003, CALs successfully integrated the School of Natural Resources and the Environment (SNRE) into the college. The SNRE is being actively promoted and supported by CALs and will continue to provide an interdisciplinary approach to education and research in ecology and the environment for UF. The Geomatics undergraduate and graduate degrees were also moved to CALs in 2004. These graduate and undergraduate programs are integrated in the School of Forest Resources and Conservation in CALs. Unique expertise, including GIS and mapping offered by the Geomatics faculty, will enhance current resource management course offerings in CALs.

CALs continues to be a leader on campus in the interdisciplinary educational areas of genetics and biotechnology. On-going investments in the infrastructure supporting our Plant Molecular and Cellular Biology Minor continue its state-of-the-art status. At the undergraduate level, our Plant Molecular and Cellular Biology minor draws students from numerous majors seeking

exposure to state-of-the-art theory, techniques, and applications. At the graduate level, the interdisciplinary Plant Molecular and Cellular Biology major attracts top students nationally to its program. In 2003, CALS was given permission to plan the movement of our current interdepartmental, multi-college Animal Molecular and Cellular Biology graduate concentration to M.S. and Ph.D. degree programs. These new graduate programs will interact with existing interdisciplinary partners and expand collaboration to include the human clinical embryology group of Obstetrics and Gynecology in the Health Sciences Center.

CALS reviewed a number of its central disciplines in 2003, primarily in the undergraduate areas of traditional agricultural sciences (e.g., horticultural sciences, agronomy, plant pathology, entomology and nematology). Using a task force approach, CALS faculty benchmarked these programs with national leaders and provided recommendations for consolidation, curriculum changes, and student recruitment. Implementation of recommendations started immediately. Significant curriculum changes recommended by the task force are now underway for all majors reviewed. CALS has also partnered with the College of Liberal Arts and Sciences to propose an integrated Biology undergraduate degree. Among its six proposed tracks, this major addresses the critical state shortage of science teachers and developments in biotechnology. In addition, our Agricultural Education major continues to train much needed agricultural science teachers.

Through its program in Family, Youth, and Community Sciences (FYCS), CALS has unique expertise in teaching in the areas of the status of children and families, as well as aging. As the academic home of the new Organizational Leadership for Non-Profits minor, CALS has become a focal point for students interested in many of the issues affecting families and children. Strong family and youth research and outreach programs in FYCS complement this academic program with extensive internship opportunities.

CALS has continued to emphasize growth in graduate enrollment, expanding its fall graduate enrollment from 777 to 997 graduate students. CALS developed a graduate growth plan initially focused on expansion of key, lower cost professional degree programs, including the Doctor of Plant Medicine, the Masters in Agribusiness, the Masters in Family Youth and Community Sciences, and 15 combined degree programs. This plan continues to evolve as new combined degree programs are developed, lecturers are hired, and additional assistantships are allocated. Lecturers are important to the success of this plan. CALS currently has 16 lecturers, having added five since 2003.

CALS has continued to emphasize the five areas of enhancement promoted by UF for our undergraduates: research with faculty, study abroad, volunteer service, leadership opportunities, and internships. CALS participates actively in the University Scholars Program (USP) with an average of 20 CALS students participating each year. In cooperation with IFAS Research and Extension, CALS offers similar summer paid research opportunities to an additional 40 students. The unique CALS Upper Division Honors Program continues to provide additional opportunities for students to engage in supervised research with faculty.

Volunteer service is strongly promoted in our undergraduate and graduate student organizations. Our organizations seeking service opportunities have successfully worked with the UF Office of

Community Service to identify programs tailored to their interests and skills. CALS sponsorship of the Florida Alternative Break Program in spring 2005 is another initiative aimed at providing service-based learning opportunities for our students.

Student leadership opportunities abound in CALS, including opportunities to participate in our Ambassador Program, serve as a leader in our 33 student organizations, or study leadership in our Leadership specialization offered by the Department of Agricultural Education and Communication. CALS student organizations have hosted a number of regional and national leadership conferences, including those hosted by Minorities in Agricultural and Related Sciences and Alpha Zeta, the honor fraternity of agriculture. CALS showcases and recognizes its student leaders at an annual Leadership Reception supported by the Barben Student Enrichment Fund.

Many CALS majors require an internship as part of the curriculum, including Environmental Horticulture, Animal Sciences, Agricultural Education and Communication, and Family, Youth, and Community Sciences. To lower the search cost and ensure an appropriate internship experience for all interested CALS students, CALS co-sponsors an internship service, the *i-center*, in cooperation with Universities in Kentucky, North Carolina, and Georgia. Over 1,000 current internships in the U.S. and abroad in the areas of agriculture, life sciences, and natural resources are posted and monitored. CALS students also actively participate in the USP and IFAS Research/Extension internships mentioned earlier.

CALS continues to act on recommendations made by the 2002 IFAS/SACS review of internationalization efforts and opportunities. We have developed and promoted short term (one week to two months) international study tours, individual classes, and internships. In 2003, these efforts resulted in participation in our new exchange program in Purpan, France in a two-month summer program, a complementary ten-day Agro-Ecology summer Study Tour in France which included time at Purpan, the CALS Costa Rica Tropical Ecology Study Tour, and the Natural Resource Management summer program in the Czech Republic. The Tropical Forestry graduate class continues to be conducted during Summer A in Brazil. CALS participates in the Moscow State Agro-Engineering University exchange program, and a tropical entomology field course in Venezuela. A social problems study tour in the Caribbean was initiated to provide a social science international experience for CALS students. CALS continued its relationship with the Organization for Tropical Studies in Costa Rica, offering faculty and students policy short courses on tropical environmental issues.

In the area of internationalization curriculum development, the CALS Globalization Advisory Committee developed an International Minor in Agricultural and Life Sciences. This minor was approved by the university in spring 2003. The 2+2 cooperative program with ESPOL, Ecuador, is now established and, on average, includes ten undergraduate students from Ecuador.

## 2. Goals

Major goals for the next three-to-five years include:

**Undergraduate programs:** Our goal is to slightly expand undergraduate enrollment in CALS. The headcount target is 3,300 students, including the SNRE. Enhancing the quality of the undergraduate experience remains a priority. CALS will continue to strengthen curricula and course offerings in natural resources, conservation, and the environment as well as in the basic and applied life sciences.

**Graduate Programs:** The UF Strategic Plan (August 2002) challenged certain colleges to significantly increase graduate enrollments to contribute to the overall goal of a university-wide increase of 3,000 graduate students in six years. CALS has been targeted to grow in 2004 - 05 by 55 FTE or 1,760 graduate student credit hours (GSCH) (Table 1). In 2003-04, CALS increased graduate enrollment from 881 graduate students to 934 graduate students and increased graduate student credit hour generation from 19,066 to 21,390, an increase of 12 percent. This exceeded the GSCH goal set by the Provost for CALS of 1,440 new GSCH. Table 3 presents CALS Graduate Student Credit Hours targets through 2007-2008.

**Table 1**  
**CALS Graduate Student Growth Projections for Head Count (HC)\* and Full-Time Equivalent (FTE) Students, 2003 – 2004 to 2007 – 2008**

03-04		04-05		05-06		06-07		07-08	
HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
74	45	89	55	84	55	91	60	97	65

\*Established by the Provost

**Table 2**  
**CALS Student Credit Hour (SCH) Goals and Generation 2003 – 2004**

	<u>Goals</u>	<u>Actual</u>	$\Delta$	%
Undergraduate	68,728**	78,374	+ 9,646	14%
Graduate	19,088	21,390	+ 2,302	12%

\*Source: Institutional Research, University of Florida

\*\* Specified goal not identified, this goal was for 2000 - 01

**Table 3****CALS Graduate Student Credit Hours (GSCH) Targets\* 2002 – 2003 to 2007 - 2008**

02–03	03–04	04–05	05–06	06–07	07–08
GSCH	GSCH	GSCH	GSCH	GSCH	GSCH
18,912	20,352	22,112	23,872	25,792	27,872

\* Established by the Provost and accepted by CALS

In order to increase graduate enrollment, CALS will continue to strategically focus on a core of existing but relatively new professional degree programs that show the capacity to grow enrollment rapidly with modest investment and no need for curriculum change (i.e., approval of new degree programs). The core professional degree programs are the Doctor of Plant Medicine (DPM), M.S. in Family, Youth and Community Sciences (M.S. FYCS) and the Master of Agribusiness (MAB). In addition, CALS has developed combined degree programs for most majors. Combined degree programs are being promoted as a streamlined means of identifying and enrolling superior undergraduates in accelerated graduate programs. To meet the goal will also require each graduate program and all faculty to continue to expand their individual graduate student involvement and activity.

New graduate programs currently proposed by CALS include the Animal Molecular and Cellular Biology (AMCB) graduate program. This graduate program, currently offered as an interdepartmental, multi-college graduate concentration, was approved to plan new graduate (M.S. and Ph. D.) programs. These proposed programs are now under review by the Graduate Council. With the additional visibility offered by degree status, these programs have the potential to grow significantly. However, faculty replacements will be critical because of the large number of faculty retirements and resignations in this area.

Fully funding the Provost's five-year enrollment growth plan for CALS is essential to achieve targeted graduate growth. Modification of existing professional masters degrees within the College, certificate programs, and other innovations will also be required to significantly increase GSCH generation. Some innovations have already occurred to expand programs through distance education. CALS now offers web-based Master of Science degrees in Soil and Water Sciences, Entomology and Nematology, and a graduate certificate program in Food Safety. A web-based master's degree in Agricultural Education and Communication is launching spring 2005. It is important that UF and other US universities resolve issues regarding the decline in international graduate student enrollment. For example, CALS saw a decline in international graduate student enrollment of approximately 60 students.

### 3. Major Challenges and Foci of Development

**Faculty salaries:** Faculty salaries remain low compared to our national peer institutions and many of our colleagues on campus. The Salary Adjustment Plan for Professors is a significant step toward addressing the problem for Professors. However, some of our best Assistant and

Associate Professors are being sought by other institutions. Salary, the quality of space, facilities, and equipment are the major attractions to other institutions. In the future, more salary flexibility for faculty at salary adjustment time is essential. Across the board raises are counterproductive and result in long term salary and retention problems.

**Laboratory instruction and renovation:** CALS teaches many laboratory sections in almost every department. Laboratory instruction is expensive in terms of faculty and staff time, costs for the laboratory itself, equipment, equipment maintenance, and purchase and maintenance of animals, plants, microorganisms, and ecosystems. Resources are needed to upgrade laboratory equipment, systematically replace depreciated equipment, provide for equipment maintenance, improve the general laboratory infrastructure and space, and provide additional laboratory space to facilitate more effective, contemporary instruction.

The recent decision to remove the \$45.00 upper limit on the materials and supply (M&S) fee is a welcomed change. CALS was the first college to receive approval for an M&S fee in excess of \$100. Additional changes for the use of M&S fees should be initiated for the following reasons:

1. Some of the laboratories in CALS are taught at locations such as the Ordway Preserve, the Animal Sciences Outdoor Teaching Laboratory, the Austin Cary Forest, and the Arboretum Teaching Laboratory. We need authority to utilize M&S fees to cover costs incurred to transport students to these laboratories (rental vans, buses, etc.) and to fund consumables and safety equipment.
2. In a teaching environment, equipment maintenance and replacement needs are much greater than under normal laboratory circumstances. Therefore, provisions to utilize M&S fees for equipment repairs, maintenance, and replacement of depreciated equipment should be allowed.

**Buildings:** CALS is currently seeking private funds to build a \$12 million academic building. In addition, the proposed Life Sciences building is essential to meet our classroom, laboratory, and faculty needs. We are working with federal legislators to fund a Human Nutrition Annex to the Food Science and Human Nutrition building. This building would contain research laboratory space, suitable-space for outpatient studies, office space for faculty, students, and staff, a shared instrumentation laboratory, basic science laboratories, and classrooms. A major new building for IFAS to house the natural resources disciplines is, however, the first priority.

**Classroom Improvement and Renovation:** Many classrooms used by CALS are in disrepair and need renovation. A stellar student body and an excellent faculty deserve better.

**Technology:** Based on an IFAS task force report completed in spring 2004, a significant investment was made to upgrade the IFAS state-wide interactive videoconferencing system. Partnering with UF Academic Technology, this system is now deployed for the six IFAS sites supporting the distance delivery of classes in our off-campus and distance education programs. Additional sites are being added to complete this state-of-the-art, state-wide communication system at the county level.

**School of Natural Resources and Environment (SNRE):** The SNRE will continue to offer campus-wide interdisciplinary degree programs at both the undergraduate and graduate levels. These programs focus on educating students to understand the complex issues related to environmental quality, ecological restoration, socio-economic stability, and prepare them to participate in addressing these issues in the public arena and private sector. Specific goals include enhancing the interdisciplinary nature of the academic programs, increasing the undergraduate and graduate student populations, and enhancing the quality of the academic enterprise. To accomplish these goals, it is essential that the faculty, departments, and colleges continue to be fully engaged in the SNRE. The most viable way it can accomplish this mission is assist faculty throughout the university in developing collaborative grant proposals to federal and state agencies and private organizations which fund natural resources and environmental initiatives.

**CALS Off-Campus Academic Programs:** The development and enhancement of off-campus undergraduate programs is a priority for CALS. These programs enhance student access by providing opportunities for place-bound and time-bound students to earn baccalaureate degrees and an opportunity for CALS to more fully serve its statewide mission. Programs are located in Ft. Lauderdale, Pensacola Junior College-Milton, Ft. Pierce, Homestead, Apopka, and Hillsborough Community College - Plant City. We will continue to examine each program and make appropriate modifications to better serve students and the local community.

**Diversity:** Diversity will continue to be a major priority for CALS. The college has done a stellar job at the undergraduate level in diversifying the student population (30% minority), but has not yet achieved similar success at the graduate level (11% minority). We are firmly committed to recruiting a more diverse faculty and staff and will continue to take steps to accomplish that objective. Since July 2002, we have hired 7 minority faculty. We will continue to implement strategies to maintain undergraduate minority enrollment and increase graduate minority enrollment. Additional efforts will be made to increase the diversity of the faculty. We continue collaboration with historically black colleges (HBC's). Currently, we have a joint Ph.D. and a 2+2 arrangement with Florida A&M University and a fourth-year program with Tuskegee. It is our goal to expand their programs into additional areas and explore similar opportunities with other HBC's.

### **Final Points**

A recent review of the criteria used by US News and World Report for their university ranking places CALS among the top colleges at the University of Florida. CALS has smaller classes, FTIC freshmen with outstanding SAT scores, above average six-year graduation rates, alumni who participate in giving back to UF more than most, instructional faculty with 99 percent holding terminal degrees and very few part-time faculty. Generally, CALS ranks about 4<sup>th</sup> among UF colleges. Where we fall below average is in the freshmen retention rate and in faculty salaries.

During the coming year, we will continue to review ranking and other indicators used by others to determine how we can improve as a college and as part of the University of Florida.