College of Sciences Vision, Mission, and Goals

Vision

The College Sciences at the University of Central Florida aims to become nationally and internationally recognized for excellence in education and research in each of its disciplines, for contributing to the economic and intellectual growth of the region and state, and for educating students who are committed to excellence, leadership, service, and lifelong learning.

Mission

The College of Sciences provides students the foundations needed for critical thinking as well as career and life success. Through research and discovery, the college expands knowledge in communication and the physical, biological, social, behavioral, and computational sciences. We seek to conduct research that matters, and to prepare students to be thoughtful, ethical, and engaged members of society locally, nationally, and worldwide.

Goals

The college goals are listed as 'priorities' in the following strategic plan.

College of Sciences Strategic Plan

The strategic plan was developed in 2011-12 in consultation with departments, then modified in 2013-14. That plan is included here, along with potential changes that respond to the new university Collective Impact Strategic Plan (hereafter "CISP") and the new goals established for colleges. The list of priorities on this page is annotated by ties to the CISP. Subsequent pages itemize plans for action and summarize progress to date.

Priorities

1. Improve student success: progression, retention, graduation, and careers. (Added in 2016 in response to university strategic plan and goals)
   Aligns with CISP topics: Degree Attainment, Access, Undergraduate Student Success, Student Prominence, Student Diversity and Inclusiveness, Community Engagement, economic impact

2. Focus on student learning: innovation, experimentation, and evaluation.
   Aligns with CISP topics: Degree Attainment, Access, Undergraduate Student Success, Student Prominence, Student Diversity and Inclusiveness, Community Engagement, Research Engagement, regional economic impact

3. Strengthen research and increase research funding. (2016 modification of: Pursue research that is important for scientific understanding and for the common good.)
   Aligns with CISP topics: Research and Commercialization Commitment, Research Collaborations, Intellectual Anchor for Industry Clusters, Research Engagement, Expand Areas of Distinctive Impact, Faculty Prominence, Graduate Student Prominence, Faculty and Staff Diversity and Prominence, National and Global Impact

4. Shape nationally competitive PhD programs and professionally useful master's programs. (2016 modification of: Foster high-quality graduate programs.)
   Aligns with CISP topics: Graduate Student Prominence, Work Environment, Expand Areas of Distinctive Impact, Research Engagement, Research and Commercialization Commitment, Intellectual Anchor for Industry Clusters, Funding Diversification, regional economic impact

5. Increase fundraising – both annual giving and major gifts.
   Aligns with CISP topics: Alumni Engagement, Faculty Prominence, Community Engagement, Funding Diversification

6. Foster a culture of diversity and inclusiveness for faculty and students. (2016 modification of*:* Foster outreach, recruitment, and retention in the natural sciences, particularly of underrepresented groups.)
   Aligns with CISP topics: Faculty and Staff Diversity and Inclusiveness, Student Diversity and Inclusiveness

7. Improve faculty member's ~~long-term~~ career success and satisfaction. (Changed 2016)
   Aligns with CISP topic: Work Environment

Action Items for Each Priority, and Progress to Date

1. Improve student success: progression, retention, graduation, and careers. (Added 2016)
   New 2016 Goals:
   - Increase first-year retention of COS students to 92%.
     Status: From 2010-11 through 2014-15: 87% 87% 87% 87% 89%
   - Increase FTIC six-year graduation rate to 72%.
     Status: Cohorts 2005-06 to 2009-10: 64% 66% 69% 69% 70%
   - Have FTIC and transfer students graduate at same rate four years after gaining junior status.
     Status: Latest cohorts are 84% (FTIC) and 64% (transfer)

   Actions:
   - Seek to improve courses that are barriers to success (e.g., high DFW). *New 2016*
     Status: Courses identified, changes for many began before this goal was articulated, will now seek to follow through on and then track improvements
   - Improve the retention and graduation rate of transfer students. *New 2016*
     Status: Departments and advisors are examining transfer student success and failure in each major, to identify potential patterns that may suggest useful interventions
   - Improve high impact curricular and co-curricular activities (e.g. internships, research, internationalization) to foster student career and life success.
     Status:
     - *Working with university Office of Experiential Learning to expand internship opportunities; working through advisory boards to identify new sites*
     - *Psychology improved career preparation before this goal was articulated; we will seek to apply their lessons to other majors*
     - *Added study-abroad and exchange opportunities particularly in Communication and Political Science; supported Global UCF, particularly the first year*
     - *Physics added a BA with tracks that permit multiple career paths; Mathematics has developed tracks for multiple careers*

2. Focus on student learning: innovation, experimentation, and evaluation
   - Increase the use of existing pedagogical research.
   - Increase curricular innovation, assessment of learning, and formal SOTL research.
   - Increase externally funded SOTL research particularly in STEM fields.
   - Use incentive funding and modify evaluation standards to support the above.
     Status:
     - *Initiated iSTEM together with CECS to help boost SOTL efforts in STEM fields, and funded the iSTEM Fellows program to help more faculty develop funded SOTL programs*
     - *Hired SOTL researchers in Physics, Mathematics, Chemistry*
     - *Mathematics is experimenting with adaptive learning and other methods to improve introductory courses, and is piloting changes to the MALL*
     - *Physics has adopted and modified studio approaches*
     - *Biology is experimenting with virtual labs*
     - *Chemistry has adopted ideas from writing across the curriculum*
     - *Individual faculty in most departments have adopted research-based pedagogies*

3. Strengthen research and increase research funding. (2016 modification of: Pursue research that is important for scientific understanding and for the common good.)
   New 2016 Goal: Increase new grants received annually to $23M
   Status: Funding has been flat in recent years. The midyear 2016-17 dashboard from ORC shows COS funding up 57% from the same date last year.

   - Conduct research that is at the forefront of each discipline in the college. (2016 modification of: Value research that is important for scientific understanding and for the common good, both within and across disciplines.)
     Status: Quality is difficult to assess directly, but this is too important to omit. College faculty recently averaged 4.3 papers, 5.2 presentations, and 219 citations per year. The hire of many new faculty members strengthens the college's research programs. The use of Academic Analytics may give us a better sense of quality or at least of relative impact.
   - Adjust evaluation standards to value important research, both disciplinary and multidisciplinary.
     Status: 2016-17 revisions AESP and P&T criteria provide the opportunity for this.
   - Use seed grant programs and faculty training programs to boost external funding efforts.
     Status: COS/ORC program has funded $60k in seed grants annually; improved mentoring program for new assistant professors includes training; ORC has added and improved workshops.
   - Improve staff support for external funding, particularly at the proposal stage.
     Status: Hired one part-time person in Fall 2016, hiring two more full-time; but this may only make up for ORC staff cuts instead of improving support.
   - Seek and foster research partnerships across the university and community.
     Status: There is significant COS participation in the faculty cluster initiative; many COS grants are collaborative; new community partnerships are being explored by Communication in association with the move downtown; and I/O Psychology is identifying new opportunities for consulting with regional businesses; data science is developing as a collaboration among COS, CECS, and CBA and extending to regional industry.

4. Shape nationally competitive PhD programs and professionally useful master's programs. (2016 modification of: Foster high-quality graduate programs.)
   - Develop PhD programs in Data Analytics, Anthropological Sciences, and Strategic Communication.
     Status: for Data Analytics and Anthropological Sciences, have hired sufficient tenure-track faculty, obtained $494k in recurring funding for student support, and submitted proposals to curriculum committees. For Strategic Communication, have hired two faculty members, hiring two more now, and proposal is being drafted.
   - Increase graduate enrollment to 550 PhD and 350 Master's students by 2020. (New goal added 2016)
     Status: Enrollment decreased from Fa 2012 through 2016:
     PhD: 422 412 419 424 421
     Master's: 386 372 355 340 325
     Adding new PhD programs, refocusing MA program to be more career-oriented, and increasing faculty numbers will help, but increasing grants is essential to meet this goal.
   - Advance at least three PhD programs to top-50 rankings (New goal added 2016)

Status: Physics is regularly ranked in the top 100; Security Studies, I/O Psychology, and Human Factors Psychology are very strong in fields with limited competition; Sociology has placed many graduates in tenure-earning positions; Conservation Biology, especially with the new coastal cluster and strong recent hires, is well positioned to advance; the Planetary Sciences track of the Physics PhD may have an opportunity to be ranked in a niche area; the job now is to identify concrete steps needed by these and other programs to advance in national reputation and ranking.

- Identify concrete steps to improve the competitiveness of graduates in each program, e.g., professional development for both academic and non-academic careers.
  Status: Some programs do this well (e.g., Sociology); otherwise only discussions have taken place so far.
- Improve recruitment efforts for top graduate students.
  Status: the key need is to increase stipends for first-year PhD students; no funding has been identified yet.
- Strengthen or develop master's, certificate, or corporate education programs that align with areas of regional need.
  Status: No new programs yet; opportunities exist to improve career focus of MA programs, for example the Communication MA in conjunction with the move downtown.

5. Increase fundraising – both annual giving and major gifts.
   - Increase funds raised, both in the annual fund and endowments. New 2016 goal: increase annual attainment to $5M by 2020.
     Status: Year by year attainment from FY12 through FY16:
     $0.3M $1.7M $1.9M $2.3M $1.9M
     Major gifts include $1M for UCF RESTORES and an endowment for chair in Statistics. As of the middle of FY17 the college has raised $11M of our $20M campaign goal.
   - Strengthen the fundraising, alumni relations, and communication team.
     Status: Added associate director of giving, new alumni representative with increased annual giving expectations, marketing coordinator, and graphics designer. Developed communication plans for alumni and potential donors, including: COS News, newsletters, COS Distinguished Speaker Series, AlumKnights, alumni highlights, college alumni chapter, annual letters from dean and chairs.
   - Develop philanthropic campaigns for identified priorities.
     Status: campaign materials developed for UCF RESTORES and Sotloff Memorial Scholarship, partially developed for sea turtle/coastal research facilities, underway for data analytics, India Center, and others.
   - Strengthen each department's ties to its alumni.
     Status: developed communication plans for alumni including alumni highlights, college alumni chapter, annual letters from chairs, annual AlumKnights.

6. Foster a culture of diversity and inclusiveness for faculty and students. (*2016 modification of:* Foster outreach, recruitment, and retention in the natural sciences, particularly of underrepresented groups.)
   - New 2016 Goal: at least 12% of tenure-track hires from underrepresented groups.

Status: We changed the college's search process beginning in 2011-12 to reduce unconscious barriers to hiring a diverse faculty; this led to gender balance for tenure-track hires but no significant progress on other measures of diversity; therefore in 2016-17 we increased the emphasis on appropriate ads and deeper looks into pools.

- Increase outreach and recruitment of STEM students, particularly from under-represented groups.
  Status: through iSTEM (initiated with CECS) we helped begin UCF STEM Day and new science summer camps; Physics and Mathematics departments began Career Days; Physics Department became an APS Bridge Site to recruit and prepare under-represented students for Physics PhD programs.

7. Improve faculty member's ~~long-term~~ career success and satisfaction. (Changed 2016)
   - Foster a culture of consultation, collaboration, and support.
     Status: started Dean's Advisory Council consisting of elected faculty; began developing bylaws in several departments to ensure shared governance
   - Improve mentoring of tenure-earning, mid-career tenured, and non-tenure-earning faculty.
     Status: improved program for tenure-earning faculty each year, most recently in collaboration with Faculty Excellence; added programs for mid-career tenured faculty and for new non-tenure-earning faculty
   - Support family-friendly campus policies.
     Status: have encouraged use of parental leave, tenure extension, etc., with the result that these are now widely used and accepted in COS