

2015-16 UTC DEPARTMENT OF CHEMISTRY and PHYSICS GOALS

General Objectives:

- To maintain excellence in teaching as the highest priority of the department
- To encourage students to develop academic abilities and career interests through a well-designed curriculum and an effective advisement program
- To attract students of outstanding ability and promise to the university
- To maintain a program providing the safest environment possible for all activities
- To promote the value of undergraduate research in the education of our majors, and to maintain a vigorous research program based on internal and external funding and a strong publication record
- To acquire and maintain state-of-the-art scientific equipment for use in teaching and research
- To place a high priority upon professional development for faculty and staff
- To participate in the university's goal of providing a strong general education experience for students
- To foster effective communication, mutual respect, and understanding among students, faculty, staff, and administrators.

Goals:

Instruction and Curriculum

- 1) To provide a rigorous and effective undergraduate education preparing our students for future success in industry, graduate school, medical related fields (premed, predent, prepharm), business, etc.; and to maintain an undergraduate chemistry program accredited by the American Chemical Society Committee on Professional Training (ACS-CPT) by submitting our required annual report to the ACS-CPT; and maintain a physics program consistent with recognized standards for discipline. To evaluate and plan for new ACS-CPT required coverage of synthetic polymers, biological macromolecules, supramolecular aggregates, and meso- or nanoscale materials.
- 2) To provide high quality instruction by utilizing modern scientific equipment in laboratory work and research and by utilizing appropriate technology in instructional activities.
- 3) To utilize computational chemistry software, on-line access to the scientific literature, and electronic searching capabilities in our instructional and research activities; and to maintain accurate and useful webpages.
- 4) To maintain a strong seminar program featuring outside speakers from academic programs, industry, or research laboratories.
- 5) To continue a mentor program pairing newer department members with more experienced members.

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- 6) Within the limitations of available resources, to best meet the department teaching needs through an appropriate balance of well qualified and effective adjuncts, lecturers, tenure track faculty. To hire new CHEM and PHYS adjuncts. To hire a new Faculty Associate.
- 7) To prepare class schedules for each coming semester and through advisement, registration, and overrides help students get into appropriate courses including the areas of CHEM, PHYS, GNSC (general science), and ASTR (astronomy).
- 8) To submit required information for General Education Recertification for 10 Natural Science courses (5 lecture/lab paired courses).
- 9) To submit curriculum Proposals to add one course to Chemistry minor, eliminate 5 unnecessary Physics courses, and update the pre- and co-requisite descriptions for 22 Physics courses.
- 10) To provide documentation and support as required by the university for effective EDO, reappointment, tenure, and promotion decisions.

Student Recruitment, Retention, and Success

- 11) To work with the Admissions Office (Enrollment Services) and Center for Advisement and Student Success in attracting, retaining, and assisting outstanding students to our programs. To provide effective advisement for freshman and transfer majors during the summer. To continue to provide work opportunities for student teaching assistants in chemistry and physics within the limitations of our budget.
- 12) To carry out effective recruitment activities with CHEM (Freshman Grote Scholarship) mailings and PHYS recruitment mailings sent to high schools throughout the state, and to promote awards/scholarships to reward and retain outstanding students. To work with a small group of select high school students in a research project. To assist with High School Chemistry Olympiad and some pre-college outreach activity.
- 13) To develop new master list of all department advisors, maintain an excellent program of advising, and to offer assigned students personal advising every semester.
- 14) To select recipients for Chemistry and Physics awards/scholarships and host a spring ceremony with students and guests to present awards, scholarships, and recognitions.
- 15) To provide support for the *ACS Student Affiliates Chemistry Club*, *Gamma Sigma Epsilon*, *Premedical Club*, *Pre-Pharmacy Club*, and *Society of Physics Students* group.

- 16) To provide documentation and support as requested/required by the university for Student Learning Outcomes, curriculum mapping, annual assessment, accreditation, recruitment (high school visitation: group and individual), and Strategic Plan.

Equipment, Facilities, and Operations

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- 17) To maintain our excellent inventory of scientific instruments used in the teaching and research activities of the department, to maintain well organized and fully functioning instrumental and advanced research instrumental labs, and to keep computers up to date.
- 18) To work with the administration and university on appropriate university budgeting for operating expenses, equipment maintenance, instrument acquisitions, start-up funding for new faculty, and salaries for chemistry faculty, staff, and adjuncts.
- 19) To provide information and feedback to facilities regarding leak, repair, and maintenance issues.
- 20) To plan wisely and to utilize our operating resource budgets including State, Grote, lab fees, gifts, and grants; and to continue to connect to alumni and donors in a positive way through alumni office.

Research, University, and Professional Connections

- 21) To seek external and internal funding in support of equipment needs and research activities within the department.
- 22) To maintain an outstanding program of undergraduate research leading to peer-reviewed scientific papers and conference presentations by research students and faculty, and to include 20 students (as allowed by resources) per semester enrolled in 4997 or 4995 research courses.
- 23) To conduct a vigorous program of undergraduate summer chemistry research supported through Grote and Westbrook Funds and grants from external agencies, and to promote research collaborations with other departments, universities, and organizations.
- 24) To encourage faculty/staff to be engaged in their profession through activities such as research, scientific meetings, professional development, scientific literature review, and collaborative projects, and be active in aspects of the university beyond the department level– specifically to engage in a reasonable amount of service on University-wide committees or groups, engage in commencement exercises, etc.
- 25) To partner with area chemical companies and other academic institutions as appropriate, by making available to them technical assistance and other forms of professional service and collaboration.
- 26) To adjust to reorganized Department of Chemistry and Physics by submitting requested written realignment plan for approval by Dean, Provost, and Chancellor. To carry out this plan including developing new combined Bylaws and utilizing Associate Heads for Chemistry and for Physics programs along with just one administrative assistant for 25 full-time faculty/staff and 7 or more adjuncts.