Department of Chemistry and Biochemistry
UNIVERSITY OF COLORADO **COLORADO SPRINGS**

ENHANCING TEACHING EFFECTIVENESS PROGRAM

Preamble:
The faculty members of the Department of Chemistry and Biochemistry at the University of Colorado Colorado Springs (UCCS) are committed to continuous improvement of teaching and instruction in its various forms, to include lecture, laboratory, collaborative research, club advising, and service-learning. The goal of this **Enhancing Teaching Effectiveness Program** is to help all Department members, regardless of rank or teaching duties, become more effective educators who are better at engaging, challenging, and nurturing students. This informal mentoring plan outlines a variety of ways to become a more effective and successful educator that includes self-assessment, peer mentoring, among others. This an informal program and is separate from the reappointment-tenure-promotion (RPT) process of tenure-track faculty. This program encourages faculty members of all ranks to reflect on their teaching and to consider ways to improve in their role as educators.

Introduction:
When beginning the assessment questions of "How do I *best* teach?" or "What are the best practices?", it may be helpful to reflect on first what the duties of teaching are at the college level. College level instruction can include the foundational or preparatory courses up to upper division or graduate courses. In these latter discipline-specific courses, the goal may be to discuss innovative discoveries within a specific discipline with critique of this new knowledge. Regardless of the course level, the faculty member responsible for that course has the following duties:

1. Prepare a course syllabus that defines course learning objectives that are clear and reasonable.
2. Utilize necessary resources and apply knowledge and skills to achieve the course objectives.
3. Require resources from students, Department, or College that are reasonable and appropriate.
4. Employ effective organization to communicate course information with integrity and clarity.
5. Use appropriate instruction methods to deliver information and facilitate student learning.
6. Use feedback and self-reflection to assess student learning, critique his/her methods of teaching, and use of evaluations to improve the quality of instruction.
7. Ensure that student grades/scores are reflective of student knowledge and/or student skillset in course-objective-defined areas.
8. Evaluate student achievement using clearly articulated criteria.
9. Foster an environment that will enable student success and a respectful learning environment that supports diversity and inclusion.

Information for new faculty members:
While these teaching duties are important to consider when first designing, evaluating, and re-designing a course, there are other factors to consider when first getting started in the new role as an instructor. Finding a teaching mentor (such as a tenured faculty member or senior instructor) can be a valuable asset when first faced with the tasks involved in preparing or re-designing a course from the ground up, especially when you've never done it before! These course tasks may include:

1. Preparing and writing a syllabus,

2. Writing course learning outcomes (or objectives) that are clearly articulated and achievable,
3. Preparing a course schedule that is reasonable and uses lecture or laboratory time effectively,
4. Designing instructional content and delivering course content effectively,
5. Evaluating student achievement and assessing efficacy of teaching strategies,
6. Best grading practices,
7. Developing classroom management strategies that maximize student engagement and effective use of lecture or laboratory time,
8. Implementing best practices for creating and fostering respectful and productive environments that honors diversity and inclusion.

Evaluating effectiveness:
Effective teachers intentionally reflect on aspects of their teaching, from the subject matter itself ("Do I have the appropriate expertise?") to developing ways of actively engaging students in learning via instructional design and delivery. To evaluate teaching effectiveness, faculty members should consider these elements below (with examples of evidence) and may use this document when partnering with another faculty member or engaging in self-reflection about teaching practices. A self-assessment tool to enable goal setting and teaching improvement is included in *Appendix A*. Please note that a faculty member does not need to demonstrate growth in all of these areas (below), and there may be other means by which improvement in teaching is demonstrated beyond the examples of evidence provided here.

1. **Content expertise**: *Is the faculty member engaged in his/her discipline and able to design a course that reflects the best practices or most current state of the field?*

   Examples of evidence: Developing new teaching materials; leadership in curriculum development; serving on a thesis/dissertation committee; working on an advanced degree or certificate training; publishing in the peer-reviewed literature; having an active scholarly agenda; mentoring research students; attending discipline-specific conferences

2. **Instructional design**: *Is the faculty member able to design learning activities and course materials that allow students to master course learning objectives?*

   Examples of evidence: Course outlines or syllabi that include learning objectives; providing course materials to guide student development; use of evaluation or assessment tools (rubrics); revising a course based upon student feedback; utilizing technology effectively; engaging in campus offerings (Faculty Resource Center); collaborating across disciplines or departments; developing hybrid or online courses

3. **Instructional delivery**: *Is the faculty member able to teach the course effectively? The faculty member should demonstrate enthusiasm, communicate effectively and clearly, and provide timely feedback. The faculty member utilizes student evaluations and faculty peer observations to improve instructional delivery.*

   Examples of evidence: Student evaluations (FCQs), faculty peer observations, utilizing mid-course or mid-semester evaluations to alter instructional strategies, attending other courses taught by faculty in the same or different departments for 'best practices'

4. **Student engagement**: *Does the faculty member facilitate student learning with the outcome of student achievement?*

    Examples of evidence: Use of online course management system; use of technology; faculty member holds office hours; use of the Science Center; service-learning courses; mentorship of student researchers or teaching assistants; student evaluations of faculty availability and respect/treatment of students; participation in academic or club advising; teaching award/honor; participation in GPS; when available, use of nationally-normed standardized exams (such as ACS exams)

5. **Student success**: *Does the faculty member provide mentorship or guidance to students beyond the undergraduate experience?*

    Examples of evidence: alumni evaluations; writing letters of recommendation for job/graduate school/professional school placement; advising students in writing fellowship applications; mentoring visiting undergraduate research students; advising students with career preparation.

What can a faculty member expect by participating in this program?
Participation in this program is voluntary and is separate from the RPT process (for new faculty members on the tenure track). The program can be tailored to the needs of the faculty member and participation in the program is flexible and encouraged for as many semesters as the fauclty members feels is useful. However, if there is concern about the faculty member's performance (by annual review, student evaluations, or via other means), the Department Chair or Primary Unit Committee Chair (for TTF) reserves the right to *strongly suggest* mandatory participation if he/she feels that it would benefit the new faculty member and the unit.

When first starting in this program, new faculty members are strongly encouraged to invite a teaching mentor into the lecture or laboratory environment and receive feedback. This teaching observation is recommended to occur at least once per semester for the first two years, but having more observations (especially if to occur after mid-semester student evaluations) can provide invaluable information to early career teachers! This will help with understanding how changes made in the course, which result from feedback for mid-semester evaluations, have affected the dynamics of the course and the effectiveness of instruction. Please see the peer observation forms on OneDrive or linked on the Faculty & Staff tab of the department web site. Getting feedback early on in the semester allows the new faculty member to make immediate changes to improve the course quickly to benefit current students.

New faculty members are also encouraged to attend courses taught by more experienced colleagues who have been consistently rated as highly effective instructors. When attending these other courses, faculty members do not need to be familiar with the course content, but should rather focus on:
- o Classroom management (how the faculty member starts and ends the class; student-faculty interactions in the classroom, how expectations are set and communicated to students, etc.)
- o Use of technology to engage students and/or assess mid-lecture understanding
- o Use of teaching modalities: PowerPoint, flipped classrooms, team-based learning, group learning, in-class activities, quality of the board work

The goal in attending others' course meetings (lecture or laboratory) is to identify high impact practices that most benefit students and their achievement. This will also help you in figuring out your own teaching style.

Appendix A: **Self-Assessment**

Use this tool for self-evaluation of current teaching practices, to set goals, and find resources to improve aspects of teaching. An effective teacher may not hit all of these categories and that is acceptable! It depends on your role within the Department.

Evaluating teaching effectiveness:

1. **Content expertise**
   - _____ Working on advanced degree/post-doc/certifications
   - _____ Attendance or leadership at discipline-specific conferences
   - _____ Mentoring students in research projects/chair or serving on thesis/dissertation committees
   - _____ Developing new courses for Compass Curriculum
   - _____ Publishing in peer-reviewed literature relevant to subject material being taught
   - _____ Having an active scholarly agenda
   - _____ Leadership in curriculum development
   - _____ Developing new teaching materials
   - _____ Other (define):

2. **Instructional design**:
   - _____ Course syllabi that includes learning objectives
   - _____ Course materials are provided to students that guide development
   - _____ Course/curriculum revision development
   - _____ Use of innovative technology
   - _____ Facilitating best practice discussion with other faculty
   - _____ Utilizing Faculty Resource Center offerings
   - _____ Participating in trainings offered across campus
   - _____ Collaborating in courses across disciplines or departments
   - _____ Developing hybrid or online courses
   - _____ Other (define):

3. **Instructional delivery**:
   - _____ Student evaluations of teaching (FCQs)
   - _____ Peer evaluation of classroom teaching
   - _____ Peer evaluation of teaching materials
   - _____ Going to another course and observing a seasoned instructor
   - _____ Mid-course improvements to address student problems or after attending a teaching workshop
   - _____ Utilizing Faculty Resource Center offerings
   - _____ Other (define):

4. **Student engagement**:
   - _____ Collaborative research projects or mentoring activities of research students or graduate teaching assistants
   - _____ Developmental advising
   - _____ Service-learning or study abroad projects
   - _____ Use of an online course management system (Canvas)

Department of
Chemistry and Biochemistry
UNIVERSITY OF COLORADO **COLORADO SPRINGS**

- _____ Use of technology
- _____ Holds adequate office hours
- _____ Utilizes Science Center resources
- _____ Student evaluations of faculty availability and respect/treatment of students
- _____ Teaching award or honor
- _____ Participation in GPS or other 'high impact' practices
- _____ Other (define):

5. **Student success**:
   - _____ Good student outcomes in subsequent courses
   - _____ Student placement in graduate/professional/post-baccalaureate programs
   - _____ Alumni survey responses or other indicators of success in chosen career
   - _____ Writing letters of recommendation for post-UCCS endeavors
   - _____ Advising students with application materials: cover letters, resumes, personal statements, fellowship applications
   - _____ Mentoring visiting undergraduate research students
   - _____ Advising students with regard to career preparation
   - _____ Providing student feedback via Starfish
   - _____ Other (define):