# DEPARTMENT OF GEOLOGICAL SCIENCES UNIVERSITY OF COLORADO, BOULDER 

BY-LAWS, ORGANIZATION, AND OPERATING PROCEDURES

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## Department of Geological Sciences University of Colorado, Boulder

## BY-LAWS, ORGANIZATION, OPERATING PROCEDURES

## General Statement

The Department of Geological Sciences is a semi-autonomous academic unit of the College of Arts and Sciences of the University of Colorado and operates within the general framework of policies, rules, and procedures established by the College of Arts and Sciences, the University Administration, and the Board of Regents. The Department, as an integral and important part of the University of Colorado, is obligated through its faculty to contribute to the general welfare and to promote the interests of the University and the State of Colorado.

## Mission Statement

The Department of Geological Sciences, through excellence in teaching and research, advances understanding and appreciation of the Earth: its resources, structure, processes, and history. We work to create an informed and scientifically literate public, capable of making the choices required for a sustainable future, and we are dedicated to educating the next generation of leading Earth and planetary scientists. Through basic research, our faculty and students further human understanding of the past, present, and future of the whole Earth system, including linkages
between the solid Earth, and its enveloping hydrosphere, atmosphere, and biosphere, as well as linkages between the Earth and its neighbors in the solar system.

These Department By-laws, policies or rules are subject to the current laws and policies of the Regents and to other University policies and procedures subsequently referred to as the Rules of the Campus in this document. Each Department By-law, policy, or rule is intended to be interpreted and applied in a manner consistent with current Regents laws and actions and other University policies and procedures. In the event of a conflict, the Rules of Campus shall control.

## Department Organization and Administration

## Definitions, Meetings and Voting Procedures

1. Regular faculty are assistant, associate, and full professors tenured or on tenure-track appointments, whose tenure resides in the Department of Geological Sciences; also assistant research professor, associate research professor, and research professor in the Department of Geological Sciences as defined in the Rules of Campus.
2. Instructional faculty are instructors, senior instructors, and principal instructors rostered in the Department of Geological Sciences.
3. Adjoint, adjunct, and attendant faculty are assistant, associate, and full professor adjoint; assistant, associate, and full professor adjunct; assistant, associate, and full professor attendant rank; and those "other" faculty titles as defined in the Rules of Campus.
4. Upon retirement, any assistant, associate, or full professor or any instructor, senior instructor, or principal instructor may be nominated to receive emeritus status at the rank at which they retired. When a nomination is received, a vote of the faculty is called and if the vote is to recommend emeritus status, the Chair will write a letter to the Dean requesting emeritus status. That letter will include the vote total (number of yes, no, abstentions).
5. The regular faculty with tenure within the Department of Geological Sciences vote on tenure decisions (University rule). All regular and instructional faculty of the Department vote on selection of the Chair of the Department. Voting on the appointment, reappointment, and promotion of faculty follows the "rank rule", in which only those regular faculty members at or above the rank to which promotion is to occur can vote. Departmental recommendations for tenure, appointment, reappointment, and promotion shall be decided by simple majority votes, with all eligible faculty polled. Abstentions will not count as part of the total vote. Votes on appointment normally will be conducted one week after the initial faculty discussion on the qualifications of the candidates following the formal interview process. In exceptional circumstances the faculty may choose to vote on the same day as the initial deliberation if $2 / 3$ of the voting faculty are present and vote to approve a same-day vote.
6. Instructional faculty are eligible to vote on all departmental matters not involving the appointment, reappointment, tenure or promotion of regular faculty. Other faculty are ineligible to vote on departmental matters except when granted limited voting privileges. A limited voting privilege can be extended to other members of the department for departmental matters not involving the appointment, reappointment, tenure, or promotion of regular or other faculty. Establishing a limited voting privilege for other members of the department requires a motion forwarded and seconded by regular faculty that defines the specific issue for which a limited voting privilege is to be offered. Voting on the motion is by regular and instructional faculty and requires a two-thirds majority for passage. Absent faculty may vote in advance or designate a proxy. Abstentions will not count as part of the total vote.
7. Instructional and other faculty can be granted the privilege to vote on the appointment of new regular or other faculty. Establishing such a limited voting privilege requires a motion forwarded and seconded by regular faculty. Voting on the motion is by regular faculty and requires a two-thirds majority for passage. Absent faculty may vote in advance or designate a proxy. Abstentions will not count as part of the total vote.
8. In recognition of meritorious service to the Department over an extended period of time, the voting privileges of regular faculty may be extended to instructional and other faculty. (For this purpose, meritorious service is defined on the same criteria as regular faculty and holding the position for five years.)
9. One representative of the undergraduate majors and two graduate students are invited by the chair to attend Departmental Faculty Meetings, and to provide input from their representative constituencies to the deliberations of the faculty.
10. Votes that are required on personnel matters or votes that require a two-thirds majority shall be by digital ballot, while votes that are required on other Department matters may be by show of hands or by digital ballot; for both situations, a written ballot shall be used if any one faculty member so requests. To ensure confidentiality, digital ballots will be constructed to provide anonymity to the voter, while written ballots shall be submitted in an unmarked envelope, placed inside a second envelope with the voter's name written on the front. The unmarked envelopes will be removed from the labeled envelopes and co-mingled before the individual votes are removed and counted by two people designated by the Chair. No votes shall be tallied before all eligible voters cast their votes, or until 72 hours after the initial vote, whichever comes first, with the exception of votes to override the one week rule, as described above.
11. Meetings of the faculty shall be called by the Department Chair. The Chair shall be required to call a meeting if requested in writing by three or more regular faculty. All eligible voting members of the faculty shall be informed of meetings at least one day in advance. Official minutes shall be kept and be kept accessible for consultation by faculty members.
12. Under certain circumstances involving personnel issues or other sensitive issues requiring a decision by the Department, the faculty may go into executive session with attendance restricted to regular faculty.
13. A quorum at faculty meetings shall consist of 67 percent of the sum of regular faculty plus other faculty with voting privileges. The total faculty shall not include faculty on sabbatical or other types of leave. Directed proxies count towards the tally of a quorum. No binding vote shall be taken without a quorum and the attendance of a simple majority of the total faculty as defined above.
14. Unless otherwise specified in this document, votes in faculty meetings shall be decided by a simple majority of those present and voting. Abstentions will not count as part of the total vote.
15. In those situations where these By-laws specify that a two-thirds majority is required to decide an issue, the number of affirmative votes required shall be two-thirds of all faculty eligible to vote on that issue without regard to their presence at that meeting. Abstentions will not count as part of the total vote. The Department Chair will make all reasonable effort to obtain written votes on major issues from faculty who are absent from Boulder, provided that delays caused by such communications do not adversely affect the orderly progress of Department business. Abstentions will not count as part of the total vote, and for electronic ballots, eligible individuals who choose not to participate or who miss the deadline for the electronic ballot will count as abstentions.
16. A faculty member unable to attend a meeting may designate a proxy to vote on his or her behalf but no one may vote more than one proxy, unless the proxy is directed.

## Amendments

The body of this document may be amended by a two-thirds vote of the regular faculty plus the other faculty with appropriate voting privileges. The Amendments may be altered or updated according to more minor changes in departmental processes, and shall require a two-thirds vote of the regular faculty plus the other faculty with appropriate voting privileges. The date of its latest revision shall be stated at the top of each Appendix.

## Department Chair

The Chair is the executive officer of the Department and is responsible for efficiently and judiciously administering the academic, organizational and fiscal affairs of the Department. The Chair is nominated by the faculty of the Department and his or her appointment is made by the Chancellor following approval of the Dean of the College and Provost.

The Chair serves for a limited term, usually four years. An incumbent Chair may be renominated and reappointed for an additional term of office. Initiation of procedures for termination of appointment before the end of a regular term of appointment for any reason shall be the responsibility of the Dean after appropriate private consultation with the faculty of the Department.

At the start of the last academic year for the term of a current Chair, or when a Chair steps down before the agreed term is complete, the Faculty shall select a committee that will represent Full,

Associate, and Assistant professors. This committee will interview all possible candidates for the next Chair and seek individuals willing to stand for the position. These candidates will present to the faculty, in a regular faculty meeting, a statement about their philosophy and vision for the department in terms of teaching, research, and departmental administration. A time delay of at least 2 weeks is required between the initial presentations and the vote of the faculty. Votes will be cast for a single individual. If there are more than two candidates the election will be determined by a simple majority of all eligible voters. If a majority is not obtained on the first ballot, then a run-off vote will be called for after the elimination of the individual with the lowest vote. This process will continue as necessary until a candidate obtains the majority of the votes and will be elected Chair. (These rules do not pertain to those times when the Department seeks a Chair from outside the ranks of the Department of Geological Sciences' tenured faculty.)

## Associate Chairs

The Chair shall appoint on a year-by-year basis, two members of the faculty to serve as Associate Chairs. The position is one of assistance, not succession. The Associate Chairs shall assist the Chair in whatever ways the latter deems appropriate. The Chair may allocate diverse responsibilities to the Associate Chairs, including power of signature approval for documents, authority of final approval in Department decisions, and other responsibilities that would allow the Associate Chairs to fully represent and manage the Department in the absence of the Chair. The more senior (in terms of years of service in the Department) shall normally represent the Department in the Chair's absence.

## Associate Chair for Graduate Affairs

Duties normally include, but are not restricted to:

- Overseeing the graduate education program in Geological Sciences.
- Help in assigning teaching assistants for the Department.
- Review and take action with regard to petitions or applications for change in graduate status or degree objective.
- Overseeing the orientation program for new graduate students each Fall.
- Working with the Graduate Program Administrator each year to maintain and update a spreadsheet that tracks the progress for all active graduate students.
- Attending graduate director meetings sponsored by the Graduate School
- Serve as Chair of the Graduate Curriculum Committee
- Working as ex-officio member of the Graduate Admissions Committee.
- Attending regular meetings with the Chair and Associate Chair for Undergraduate Affairs.
- Serve as an active participant of Executive Committee meetings (non-voting unless elected as interest group representative).
- Serve as Departmental representative at University meetings if the Chair is unavailable.
- Serve as Acting Chair during the academic year in the Chair's absence.
- Serve as Acting Chair during the summer as required, with compensation at the standard rate determined by the College of Arts and Sciences.


## Associate Chair for Undergraduate Affairs

Duties normally include, but are not restricted to:

- Overseeing the undergraduate education program in Geological Sciences
- Work with the A\&S Academic Advisors for Undergraduate Geology Majors.
- Working with the Departmental staff to facilitate course scheduling, maintenance of the inventory of courses, and the Department's entries in the University Catalog.
- Attending undergraduate organizational meetings sponsored by the College of Arts and Sciences
- Serve as Chair of the Undergraduate Curriculum Committee
- Attending regular meetings with the Chair and Associate Chair for Graduate Affairs to assist and advise the Chair as needed
- Serve as an active participant of Executive Committee meetings (non-voting unless elected as interest group representative)
- Serve as Departmental representative at University meetings if the Chair is unavailable
- Serve as Acting Chair during the academic year in the Chair's absence
- Serve as Acting Chair during the summer as required, with compensation at the standard rate determined by the College of Arts and Sciences.


## Departmental Interest Groups

The Department normally divides itself along natural research-related divisions into several approximately equally sized interest groups. These groups are for administrative purposes, and individual faculty may be moved between interest groups as their own interests change or to maintain balance and diversity. The Chair may rearrange the composition of interest groups at the start of each academic year, which must then be approved by the faculty.

## Department Office

The Department office is the repository of all records, files and correspondence relating to the past and present operations of the Department. All files and records are kept electronically and are available for inspection by any faculty member or University official at any time. Access is gained by sending a request to the Department Chair or the Manager of Finance and Business Operations. Upon approval, access will be granted to the relevant digital file.

The Office Staff of the Department of Geological Sciences supports the mission of the Department by providing the following support services:

1. Academic scheduling
2. Processing of graduate student admission documents
3. Providing information to students, faculty and visitors
4. Processing faculty and student personnel appointments
5. Maintaining personnel records and reports
6. Providing purchasing and payment to vendors
7. Preparing financial reports
8. Maintaining office and teaching supplies
9. Providing assistance to the Chair and Faculty
10. Taking and transcribing of minutes for Faculty, Executive Committee and Advisory Board Meetings.
11. Provide assistance for grant financial management, and generally research administration.

## Standing Committees

Committees serve an essential function in the Department and elsewhere in the University and contribute to the efficient and democratic conduct of the affairs of the Department. Service on committees within the Department, the College and on general University committees is a privilege and obligation of each faculty member.

The Chair shall serve as an ex-officio member of each Department committee and shall provide all assistance possible for the efficient functioning of the committees. Results of the deliberations and actions of the committees shall be reported at regular intervals to the Department Chair and to the faculty of the Department for appropriate review and action.

Any standing committee, with the exception of the Executive Committee, may be dissolved or created by a two-thirds vote of the faculty. Unless otherwise specified, the term of appointment to a standing committee shall be for one year, but may be renewed for successive years.

The various Department standing committees, their composition, responsibilities and manner of appointment are described in the following sections.

## Executive Committee

The Executive Committee shall consist of the Chair of the Department, who is a voting member and shall act as Chair of the committee, plus one member from each of the major interest groups. The faculty members of each group shall elect one of their members to serve on the Executive Committee. Efforts to diversify the committee, by gender, by career stage, or any other criterion, can also be taken into account in constituting the committee. Vacancies that may occur shall be filled in like manner.

The Associate Chairs of the Department shall serve as ex-officio members of the Executive Committee. In the situation where an Associate Chair has also been elected as a member of the committee to represent an interest group, that Associate Chair is entitled to one vote, to be cast in their capacity as an elected member of the committee. Should an Associate Chair serve as Chair of the committee in the Chair's absence, that Associate Chair is entitled to vote a proxy for the Chair. This proxy vote is in addition to the vote that the Associate Chair may cast if they have been elected as a voting member to represent an interest group.

A Vice-Chair will be elected from the other members to serve as Chair of the Executive Committee in the event that the Executive Committee is asked to address issues regarding the Department Chair.

The committee shall meet as frequently as deemed necessary at the request of the Department Chair, or at the request of any two members of the committee.

The Executive Committee is charged with the following responsibilities:

1. Supervision of the fiscal affairs of the Department and allocation of financial resources, providing advice to the Chair about budgetary matters.
2. Final decisions about allocation of space and equipment in the department, acting on the advice of the Facilities and Space committee.
3. Annual review of each regular faculty member's total contribution to the welfare of the Department and the University. These evaluations form the basis for recommendations of merit-based salary adjustments to be transmitted to the Dean of the College; for faculty not rostered in the College Arts and Sciences, the evaluations are to be transmitted to the heads of their respective units. If a merit raise pool of funds exists, the committee determines how best to equitably allocate those resources, based upon algorithms made available to and discussed by the full faculty.
4. Annual review of the progress in teaching, research, and service for assistant and associate professors within the context of past and future career benchmarks (e.g., reappointment, promotion and tenure).
5. On its own initiative, or upon request from a faculty member, to convene as a board of review to hear, consider, and make appropriate recommendations to the Dean of the College relative to the welfare of a faculty member.
6. Establishment of optimum working relationships with other academic units of the University and with the University Administration.
7. To provide to the extent possible, an environment favorable to scholarly advancement of research and other kinds of creative work by individual faculty members.

## Committee on Salary Equity and Grievances

The Salary Equity and Grievance Committee shall consist of three elected representatives from a broad spectrum of the department. Members are normally elected for staggered three-year terms. Members of the Executive Committee are not eligible to serve on this Committee.

The Committee will annually consider the status of the Department's salary structure in terms of career merit, gender and race, and will consider any merit evaluation or salary inequity grievance filed by a faculty member. The Committee will automatically review the record of faculty members undergoing promotion or tenure review after the Department has voted in favor of promotion or tenure. The Salary Equity and Grievance Committee will report to the Department's Executive Committee prior to the annual merit review and will provide an assessment of salary equity issues within the Department and recommendations to address any identified inequities. The Chair of the Executive Committee will report any identified salary equity issues for faculty rostered in units outside the College of Arts and Sciences directly to the Unit Heads. Details of the salary evaluation process are outlined in the section entitled Salary Equity Evaluation System.

As stated above, any standing committee, with the exception of the Executive Committee, may be dissolved or created by a two-thirds vote of the faculty. The following are standing committees as of AY 22-23 with descriptions and responsibilities in Appendix A:

The BAJEDI Committee<br>Committee on Graduate Admissions and Financial Aid<br>Committee on Graduate Curriculum and Academic Planning<br>Committee on Undergraduate Curriculum and Academic Planning<br>Committee on Space and Facilities<br>Committee on Graduate and Undergraduate Awards<br>Committee on_Sample Preparation Lab and Educational Resource (SamPLER) Facility

## Ad Hoc Committees

Special committees to deal with particular issues may be formed and dissolved by the Department Chair. The Chair shall appoint the committee members and select the Chair of the committee subject to the concurrence of the faculty of the Department. Such committees shall be dissolved when the task assigned to them has been completed. The present ad hoc committees are listed in Appendix B.

## Special Faculty Assignments

The welfare of the Department is promoted by the assignment of certain special short- and longterm responsibilities to individual faculty members. Such assignments are made by the Department Chair with the concurrence of the Department faculty.

Special assignments include but are not limited to the following:

1. Alumni relations.
2. Supervision of the Department Colloquium.
3. Department Newsletter.
4. The Honors Representative will be appointed by the Chair, and is charged with the following responsibilities:
Advise undergraduate majors on the opportunities, requirements and procedures for graduating with Departmental Honors.
a. 2. Serve as a member of all Honors thesis defenses.
b. 3. Serve as Departmental representative on the College Honors Council.

## Department Faculty Mentoring

It is the purpose of the Department to do everything possible to assist faculty in preparing for the series of evaluations (reappointment, tenure, and promotions) that will determine their future at
the University of Colorado. The Departmental mentoring program is intended to provide all tenure-track faculty with the opportunity to obtain advice and career guidance from knowledgeable senior faculty. The Junior Faculty Guide provided in Appendix G can be used to help navigate the CU system.

The responsibilities for the mentoring of junior faculty fall on three entities: Department Chair, Executive Committee, and Senior Faculty Mentors. The details of the program are as follows:

1) The Department Chair works with each junior faculty member to identify two senior faculty mentors. The Chair takes into consideration the interests of the junior faculty member, recommendations from the Executive Committee, and the willingness of the senior members to provide support and guidance. Junior faculty with joint appointments or institute affiliations may request one mentor in Geological Sciences and one mentor in the second unit.
2) Such a mentor position is a regular committee assignment for which the senior faculty receives credit during the annual merit evaluations. The mentors are expected to provide information that will help prepare the faculty member for the separate levels of review leading up to tenure. In addition, the mentors are expected to provide professional guidance that is intended to assist the faculty member in establishing a successful academic career. The advice given should be evaluative and convey the experience, culture, and traditions of the unit.
3) During its annual merit evaluations, the Executive Committee will review the progress of junior faculty in teaching, research, and service within the context of past and future career benchmarks (e.g., reappointment, promotion and tenure). Executive Committee will convey the outcome of these reviews through the Chair
4) Each spring, following the annual evaluations, the Chair will meet formally with each junior faculty and their senior mentors to discuss (a) the annual merit evaluation and (b) the evaluation of progress towards reappointment or tenure and promotion. The Chair will also check with the junior faculty member as to the mentor relationship and whether it is working well or should be changed. Reassignments will be considered by the Chair, Executive Committee, and the junior faculty member.
5) Following tenure and promotion to associate professor, faculty are strongly encouraged to continue working with a senior faculty mentor. Each associate professor will be evaluated annually by the Executive Committee for progress towards promotion to full professor. If the Executive Committee feels it advisable, the Chair will meet with an associate professor to discuss the outcome of their evaluation.

## Undergraduate and Graduate Student Mentoring

A major facet of the departmental mission is the training and mentoring of undergraduate and graduate students, and the advisor/advisee relationship requires commitments by both parties to be successful. Here, faculty mentors are expected to adhere to and execute good mentorship practices, while students are expected to carry out their research following the expectations laid out by the department and University. We acknowledge that formally defining a rigid set of expectations is challenging in that each mentor/advisee relationship is different and each student's project and associated challenges is unique. However, a successful mentor/advisee relationship is built on
open, and timely communication, and the expectation that both parties will act in good faith to listen to each other and follow through with agreements they each make. At a minimum, good mentor/advisee relationships should include clarity on expectations for research-related work time, regularly scheduled meeting times, funding status, timely committee formation and usage (for graduate students and Honors undergraduates), and support for professional meeting and career development opportunities. More specific details of these requirements for both advisees and advisors are detailed in the Graduate Student Mentorship appendix.

## Policies for Reappointment, Promotion, and Tenure Department of Geological Sciences College of Arts and Sciences University of Colorado, Boulder

## Regular Tenure-track Faculty

The Department of Geological Sciences explains by means of this policy statement the procedures and standards that it will use in evaluating tenure-track personnel for reappointment, tenure, and promotion. This statement complies with policies of the Board of Regents as described in its Standards, Processes, and Procedures (SPP) document, and is consistent with the University of Colorado Administrative Policy Statement entitled, "Procedures for Written Standards and Criteria for Pre-Tenure Faculty."

1. Rules of the Regents. Rules of the Regents, as previously given in the CU Faculty Handbook, define the basic requirements for reappointment, tenure, and promotion. These currently are defined by the laws, policies and actions of the Regents. These basic requirements cannot be overridden or superseded by Departmental rules or interpretations.

The University requires comprehensive review at the end of the last appointment prior to a mandatory tenure decision. According to the Rules of the Regents, the comprehensive review involves full consideration of all credentials and can, if negative, result in the rejection of a faculty member for renewal of appointment. The question to be considered by the Department and by administrative review committees for the comprehensive review is whether or not the candidate is making satisfactory progress toward tenure.

According to Regent Policy 5.D, the award of tenure, which is typically concurrent with promotion to associate professor, requires that a faculty member be able to demonstrate "excellence" in either teaching or research and "meritorious" achievement in the other
category, plus meritorious service. Promotion to the rank of full professor requires, according to the resolution adopted at the February 17, 1994 Board of Regents meeting, that Professors should have the terminal degree appropriate to their field or its equivalent, and (a) a record that, taken as a whole, is judged to be excellent; (b) a record of significant contribution to both graduate and undergraduate education, unless individual or Departmental circumstances can be shown to require a stronger emphasis of singular focus on one or the other; and (c) a record, since receiving tenure and promotion to associate professor, that indicates substantial, significant, and continued growth, development, and accomplishment in teaching, research, scholarship or creative work, and service.

The purpose of the Departmental evaluation is to apply the general standards of performance in teaching, research, and service to the disciplines that are represented within the Department of Geological Sciences.
2. Allocation of Effort. Each faculty member has a specific allocation of effort to teaching, research, and service. The standard allocation for the Department is $40 \%$ teaching, $40 \%$ research, and $20 \%$ service. This allocation will be assumed to apply unless specific, formal agreements are made to the contrary; any such agreements must be reported to the Dean and must be in accord with the Department's Differentiated Workload Policy Statement. The allocation of effort will be considered to apply as an average over the months of any given academic year.
3. Evaluation of Teaching. The Department is committed to teaching that is inclusive, goaloriented, and scholarly over time and at all ranks. Furthermore, the Department is committed to the ongoing growth of its faculty as educators and as a community of geoscience educators. Thus, the evaluation of teaching emphasizes formative feedback that has a developmental focus, which is aimed at highlighting accomplishments in teaching as well as potential areas for ongoing growth.

As such, the Department will utilize multiple criteria to evaluate teaching performance of faculty being considered for tenure and/or promotion. This evaluation of teaching quality is informed by three voices - peer observers, students, and self. The methods by which the Department evaluates a faculty members growth in quality teaching are outlined below and in Appendix C: Evaluation of Quality Teaching.

In the first year of appointment to a tenure-track position, faculty should create a teaching portfolio that will contain all written records pertaining to teaching. A faculty member being considered for promotion and/or tenure is expected to build a case for excellence in teaching, based in part on evidence contained in their teaching portfolio. The Department will obtain additional supporting evidence using primary indicators (to evaluate quality) and secondary indicators (to evaluate the meeting of expectations) to evaluate teaching performance, as defined below.

## Primary indicators (measurement of quality)

- Statements of teaching philosophy and self-evaluation of teaching
- Examples of course outlines, syllabi, examinations, and other items that indicate the nature of instruction
- Activities by the faculty member toward the development or improvement of coursework
- Letters from current graduate students
- Letters from recently taught undergraduate students
- Letters from former graduate students (promotion to full professor only)
- Career paths of former graduate students (promotion to full professor only)
- FCQ scores
- Verbatim FCQ written student comments
- Evaluation by three or more faculty who attend classroom lectures
- Report from designated faculty mentor (promotion to associate professor)

Secondary indicators (to measure whether expectations have been met)

- Written statements that may have come from the Chair or others concerning willingness to teach, rapport with students, important contributions to curriculum development, or other related matters.
- Average number of SCH/year
- Average number of courses taught/year
- Balance of graduate and undergraduate courses
- Individualized undergraduate instruction
- Number of graduate student advisees
a. Undergraduate teaching. Undergraduate instruction is important in the evaluation of teaching credentials. Beyond formal classroom instruction, the following criteria will be included by the Department in its evaluation of teaching: advising services to undergraduate students, independent study or independent research projects involving undergraduate students (e.g., Honors theses), and activities promoting faculty-student interactions. In addition, a faculty member may submit, or the Department may consider at its own initiative, other evidence of teaching performance that seems appropriate for a particular individual.
Faculty members can request that the Chair arrange a peer evaluation that will assist them in making improvements in teaching prior to evaluation. Other mechanisms for consultation on teaching include the Center for Teaching and Learning and the Presidential Teaching Scholars consultation program. Faculty members are not required to use these mechanisms of self-improvement, but are encouraged to do so.
The Department recognizes the significant pedagogical value of effective co-teaching, especially as a means of promoting cross-disciplinary education. Faculty members who plan to coteach a course (graduate or undergraduate) in which both faculty members will actively participate in classroom instruction on a regular basis, thus modeling for students the constructive exchange of ideas and the value of lifelong learning, will receive teaching credit for the class equivalent to the credit accrued if the faculty member was teaching the class alone. Teaching credit for more than one co-taught course per academic year requires approval from the Chair.
The Department recognizes the significant pedagogical value of development of courses that incorporate research based instructional strategies and active learning techniques. The department also recognizes the substantial effort and time commitment it requires to get such a course established. Therefore, faculty who develop new or redevelop existing courses to incorporate such elements will receive 1.5 x course credit for the course towards their teaching load for 1-year for (up to) a 3-credit lecture class, and 2-years for a 3 or more-credit lecture + laboratory/field class. Documentation of efforts are to be included in the faculty member's teaching portfolio.
b. Graduate instruction. Graduate instruction is an important component of teaching evaluation. All regular faculty members are expected to develop a graduate program that includes, at a minimum, sponsorship of graduate students, service on committees of students sponsored by other faculty members, active annual participation in the screening of new students, and formal instruction of graduate students through regular courses or seminars. Faculty members should maintain, as part of the teaching portfolio, records on their graduate student programs, including strategies for development of a graduate program, dates of admission for individual students, dates of completion and placement of individual students, and other contributions to the graduate program. These records are considered part of the evidence pertaining to achievement in teaching.

The question to be considered by the Department in its evaluation of teaching is as follows: Is the faculty member's demonstrated performance in teaching consistent with the general standard for reappointment, promotion, or tenure as described in the Rules of the Regents?
4. Evaluation of Research. Achievement in research is an important component of the Department's evaluation of faculty members who are under review for reappointment, promotion, or tenure. As a means of facilitating the evaluation, faculty members should maintain a record of their research activity.

Publication is an important criterion for Departmental evaluation of research. Publication in peer-reviewed journals or in prestigious symposium volumes will be considered especially significant. Published work should show evidence of originality and importance.

A second criterion for evaluation of research is extramural support. Although quantities of research support are not specifically required for reappointment, promotion, or tenure, extramural support is taken as an important external validation of research quality, and should be available in sufficient quantity to support an active research program.

A third important criterion for evaluation of research is the candidate's national or international reputation for achievement in research. The Department will gather evidence of reputation from authoritative reviewers external to the University; these will include some individuals from a list provided by the candidate for evaluation and some individuals who are selected independently by the Department's evaluation committee rather than by the candidate.

In addition to the foregoing, a candidate may submit, or the Department may consider, other evidence of achievement in research that seems appropriate to a particular individual's case for promotion, reappointment, or tenure.

The question to be considered by the Department in its evaluation of research is as follows: Is the faculty member's performance in research consistent with the general standard for reappointment, promotion, or tenure as described by the Rules of the Regents?
5. Evaluation of Service. A candidate's record of support of academic programs in the Department is an important criterion for evaluation of service. However, evaluation of service can also extend well beyond the Department to include the candidate's work on campus committees, college committees, or in professional societies. Criteria related to service also include the extent of editorial duties and reviewing for professional journals or professional
societies, or professional services to the nation, the state, or the public. All service is evaluated with regard to its importance and its success, as well as the faculty member's dedication to it.

Evidence related to service will consist of a description of the service and of its duration and significance. This information should be compiled on a continuous basis by candidates for promotion, reappointment, or tenure. At the time of evaluation, evidence of service may be obtained from the candidate, from the Department, or from external sources.

The question to be considered by the Department in its evaluation of service is as follows: Is the faculty member's performance in service consistent with the general standard for reappointment, promotion, or tenure as described by the Rules of the Regents?

## Timetable for Reappointment, Promotion, and Tenure.

Individuals who are hired as beginning assistant professors will have at least one evaluation for reappointment prior to a mandatory tenure decision. The last reappointment prior to a tenure decision must be based upon comprehensive evaluation. A standard pattern would be for an assistant professor to receive a three- or four-year appointment initially and, upon positive comprehensive review at the end of this first appointment, to receive a second appointment that would extend to the mandatory tenure decision.

Tenure is required by the end of the seventh year. Following campus policy, faculty are eligible to be reviewed for tenure following their comprehensive review. (University policy requires that regular faculty undergo comprehensive review; Boulder campus policy sets that review in the fourth year. That year is adjusted when time towards tenure is granted upon hiring.) A request for a tenure review prior to the seventh year may come from the individual faculty member or from their unit(s), but faculty members coming up for tenure prior to the seventh year should seek advice from their chair(s) and other mentors and would be advised not to proceed if they do not believe they have the backing of their unit. All levels of review will use the same standards and criteria in reviewing such a faculty member as they would in the seventh year; there is no higher standard or different set of criteria for early tenure.

Typically, promotion to associate professor is considered simultaneously with the consideration of tenure, although formally the two are separate decisions. Under unusual circumstances, individuals may be hired as associate professors without tenure (mainly because the University is reluctant to hire individuals without a probation prior to tenure), and in this case the issue of tenure is separated fully from the issue of promotion to associate professor.

There is no mandatory point of decision for promotion to full professor. A customary waiting interval is approximately equal to the interval between the ranks of assistant professor and associate professor, because significant incremental achievement is expected between ranks. In unusual cases, an individual can be considered for promotion to full professor after only a few years in rank as an associate professor, but this is not advisable on a routine basis because review committees can be expected to apply criteria strictly and without discount for shorter time in rank in such cases. Individuals who have doubts about the timing of promotion should seek advice from their Chair, who may appoint an ad hoc personnel committee to evaluate the situation.

Any individual can ask to be considered for promotion or tenure at any time, and the request will be considered by the Department unless it is contrary to the rules of the University. Individuals
who believe that they are promotable or tenurable should not hesitate to ask their Chair for an evaluation.

## The Departmental Review Process.

For the purpose of assisting the Department in making its recommendations on appointment, reappointment, tenure, and/or promotion, the Executive Committee will appoint a Primary Unit Evaluation Committee (PUEC) for each candidate being considered during an academic year. The committees may consist of both tenured and non-tenured members.

The process of personnel review begins for the Department with each PUEC, which performs three functions. First, if there is some doubt as to the likelihood of a favorable outcome, the committee may advise the candidate to withhold the case until more time has elapsed, except in the case of mandatory tenure decision or mandatory comprehensive review. The committee may give this advice either initially, or after accumulating information indicating that the case needs to be stronger in order to be successful. The candidate is not bound to the advice of the PUEC, however, and can proceed against it.

The second purpose of the PUEC is to solicit external letters of reference and to collect other confidential information that the candidate cannot collect independently. The candidate is responsible for assembling the bulk of the personnel file, but can seek the help or advice of the evaluation committee as appropriate. The Administrative Assistant of the Department will receive the file and will review it for completeness. The file should meet the requirements of the College of Arts and Sciences and of the Campus as outlined on specification sheets that are available from the Dean's office. It is the candidate's responsibility to see that the file is attractively prepared, complete, and well-ordered, and that it has places for the insertion of confidential materials by the executive committee. It is the responsibility of the PUEC to obtain any additional information that it may require in order to make a complete presentation to the Department.

Following the assembly of all materials, the PUEC's third task is to write a detailed letter of valuation giving its own view of the case and reporting its vote on the case. The letter will be addressed to the Department Chair and will be added to the file after the candidate has the opportunity to check the letter for factual error. The committee will then make the entire file available on a confidential basis to the tenure-track faculty two weeks prior to the Department's discussion of the case.

Discussion of personnel cases by the Department is announced in advance by the Department Chair. The discussion is scheduled for a regular faculty meeting, except under extraordinary circumstances as determined by the Chair. The candidate for a particular decision will be absent on the day of discussion, and the Chair of the candidate's PUEC will be responsible for presentation of the case to the Department. This will be followed by detailed discussion of the case by all faculty. When the Department Chair is satisfied that discussion is complete, they will call for a vote. The vote will then be conducted by closed ballot one week after the Chair's call. Votes on tenure, appointment, reappointment, and promotion shall be decided by simple majority, with all eligible faculty polled. Abstentions will not count as part of the total vote. All regular faculty of the Department vote on matters of appointment, reappointment, and promotion of faculty. However, only the regular faculty with tenure within the Department of Geological Sciences vote on tenure decisions (University rule). For tenure decisions, eligible faculty will vote for Excellence, Meritorious, or Less than Meritorious, independently, for each of the areas of Teaching, Research and Service, as well as for or against a recommendation for tenure.

Following the Department's vote, the Department Chair reports the vote in a letter addressed to the Dean, and summarizes faculty discussion. The candidate for reappointment, promotion, or continuous tenure shall be informed, both orally and in writing, by the Department Chair of the recommendation made by the Department faculty as soon as possible.

## Research Faculty

The procedure for reappointment or promotion of research professors shall be the same as that for regular tenure-track faculty, except that the role of research will be emphasized. The reappointment shall be for four years.

## Instructional Faculty

The Department of Geological Sciences explains by means of this policy statement the procedures and standards that it will use in evaluating instructional personnel for reappointment and promotion. These procedures and standards conform to the University of Colorado, Boulder Titles, Roles, Appointment, Evaluation and Promotion of Non-Tenure-Track Faculty in Teaching and Librarian Positions document approved February 11, 2022.

1. Allocation of Effort. Each instructional faculty member has a specific allocation of effort to teaching and service, with the possibility of some small allocation to research possible in some contracts. The standard allocation for the Department is $80 \%$ teaching and $20 \%$ service. This allocation will be assumed to apply unless specific, formal agreements are made to the contrary; any such agreements must be reported to the Dean and must be in accord with the Department's Differentiated Workload Policy Statement. The allocation of effort will be considered to apply as an average over the months of any given academic year.
2. Evaluation of Teaching. The Department is committed to teaching that is inclusive, goaloriented, and scholarly over time and at all ranks. Furthermore, the Department is committed to the ongoing growth of its faculty as educators and as a community of geoscience educators. Thus, the evaluation of teaching emphasizes formative feedback that has a developmental focus, which is aimed at highlighting accomplishments in teaching as well as potential areas for ongoing growth.

As such, the Department will utilize multiple criteria to evaluate teaching performance of faculty being considered for reappointment and/or promotion. This evaluation of teaching quality is informed by three voices - peer observers, students, and self. The methods by which the Department evaluates a faculty members growth in quality teaching are outlined below and in Appendix C: Evaluation of Quality Teaching.

Instructional faculty should create a teaching portfolio that will contain all written records pertaining to teaching. A faculty member being considered for promotion is expected to build a case for excellence in teaching, based in part on evidence contained in their teaching portfolio. The Department will obtain additional supporting evidence using primary indicators (to evaluate quality) and secondary indicators (to evaluate the meeting of expectations) to evaluate teaching performance, as defined below.

## Primary indicators (measurement of quality)

- Statements of teaching philosophy and self-evaluation of teaching
- Examples of course outlines, syllabi, examinations, and other items that indicate the nature of instruction
- Activities by the faculty member toward the development or improvement of coursework
- Letters from recently taught students
- FCQ scores
- Verbatim FCQ written student comments
- Evaluation by three or more faculty who attend classroom lectures

Secondary indicators (to measure whether expectations have been met)

- Written statements that may have come from the Chair or others concerning rapport with students, important contributions to curriculum development, or other related matters.
- Average number of SCH/year
- Average number of courses taught/year
- Individualized undergraduate instruction

3. Evaluation of Service. A candidate's record of support of academic programs in the Department is an important criterion for evaluation of service. However, evaluation of service can also extend well beyond the Department to include the candidate's work on campus committees, college committees, or in professional societies. Criteria related to service also include the extent of service as a reviewer for professional journals, service to professional societies, or professional services to the nation, the state, or the public. All service is evaluated with regard to its importance and its success, as well as the faculty member's dedication to it.

Evidence related to service will consist of a description of the service and of its duration and significance. This information should be compiled on a continuous basis by candidates for promotion and reappointment. At the time of evaluation, evidence of service may be obtained from the candidate, from the Department, or from external sources.

## Timetable for Reappointment and Promotion.

Individuals who are hired as an Instructor (with the working title of Assistant Teaching Professor) or Senior Instructor (with the working title of Associate Teaching Professor) will be appointed to a one-year probationary term, after which they can be appointed for a 3-year term upon successful reappointment review, as per University of Colorado, Boulder guidelines. After one successful reappointment cycle, a Senior Instructor or Principal Instructor (with the working title of Full Teaching Professor) may undergo an expedited reappointment review every other reappointment cycle.

An Instructor who wishes to be considered for promotion to Senior Instructor must have been in the role of Instructor for at least six years, with the possibility of up to three years of credit for past work upon written documentation at the time of issuance of the first contract. They must demonstrate excellence in their contribution in the classroom and to the unit and demonstrate their currency in the field. A Senior Instructor who wishes to be considered for promotion to Principal Instructor must have served as a Senior Instructor for at least three years. They must demonstrate a record of distinction that typically illustrates that the individual has made a major impact in the disciplinary unit and its students (e.g., on pedagogy and curriculum), one that likely extends to considerable impact on the campus generally and/or a role in national discussions. Nominations for promotion to Senior Instructor or Principal Instructor are normally entertained as part of the reappointment cycle, but can occur at other portions of the employment cycle if such nomination is supported by the Chair.

There is no mandatory point of decision for promotion to Senior Instructor or Principal Instructor and an Instructor or Senior Instructor can remain with that title for as long as they wish, so long as they continue to obtain reappointments. The university awards the rank of Principal Instructor to a limited proportion of senior instructors to recognize a record of distinction. Since this third rank in the instructional faculty career ladder is an honor, there is no expectation that the granting of this title will occur at a particular point in the individual's career after three years in rank as senior instructor, nor is there an expectation that each senior instructor should seek this title. Promotion materials should be submitted to the department in the early fall, on a schedule consistent with normal reappointments. If someone is nominated for the rank of Principal Instructor and it is not approved, that decision has no implications for the individual's status as a senior instructor. That individual could be nominated for promotion to Teaching Professor again at a later time.

As a unit within the College of Arts and Sciences (A\&S), the Department can nominate candidates who have been at the rank of Principal Instructor for at least three years and who have an exemplary record of service to the unit and beyond to receive the honorary title of Teaching Professor of Distinction. Such a nomination will follow the guidelines established by the College of Arts and Sciences and be submitted to the college by the College-imposed deadline in the nomination year.

## The Departmental Review Process.

For the purpose of assisting the Department in making its recommendations on reappointment and/or promotion, the Executive Committee will appoint a Primary Unit Evaluation Committee (PUEC) for each candidate being considered during an academic year, as detailed in the Arts and Sciences guidelines for reappointment and promotion of non-tenure-track-faculty. The committees may consist of both regular and instructional faculty members. The PUEC reviews the candidate's dossier, which includes a statement of teaching philosophy, a statement of service, complete faculty course evaluation data, a list of courses taught during the period of review, peer evaluations of teaching during the period of review, and samples of teaching materials. This dossier is compiled jointly by the candidate and the department chair. Following the PUEC's review of the dossier, the committee writes a detailed letter of valuation giving its own view of the case and reporting its vote on the case. The letter will be addressed to the Department Chair, and will be added to the file. Discussion of personnel cases by the Department is announced in advance by the Department Chair. The discussion is scheduled for a regular faculty meeting, except under extraordinary circumstances as determined by the Chair. The candidate for a particular decision will be absent on the day of discussion, and the Chair of the candidate's PUEC will be responsible for presentation of the case to the Department. This will be followed by detailed discussion of the case by all faculty. When the Department Chair is satisfied that discussion is complete, they will call for a vote. The vote will then be conducted by closed ballot one week after the Chair's call. Votes on reappointment and promotion shall be decided by simple majority, with all eligible faculty polled. Abstentions will not count as part of the total vote. All regular and instructional faculty of the Department vote on matters of appointment, reappointment, and promotion of faculty.

Following the Department's vote, the Department Chair reports the vote in a letter addressed to the Dean, and summarizes faculty discussion. The candidate for reappointment or promotion
shall be informed, both orally and in writing, by the Department Chair of the recommendation made by the Department faculty as soon as possible.

## Other Faculty

The procedure for appointment of other faculty (professors adjoint, professors adjunct, professors attendant rank) requires:

1) Nomination and second by tenure/tenure-track faculty.
2) Letter of application by the candidate, including current CV , outlining why the candidate seeks a more formal tie to the Department.
3) Record of scholarly work comparable to regular faculty of the same rank.
4) High probability of regular student and faculty interactions over a period of several years.
5) Presentation of a lecture to the faculty (usually during colloquium)
6) Names of three referees from whom letters of recommendation can be requested.
7) Vote of the regular faculty; simple majority vote is required.
8) Letter of offer to the candidate outlining expectations must be signed and returned.

Under exceptional circumstances, the Department may grant courtesy appointments in these categories with greatly reduced expectations by vote of the faculty.

Special recognition for Instructional, Attendant/Adjoint/Adjunct Faculty. For those individuals with an established record of student and faculty interaction and a long-term commitment to the University, the following additional privileges may be granted by a vote of the faculty: Supervise graduate student theses, serve as major thesis advisor, access to graduate student applications, participation in Faculty meetings (no voting privileges w/o separate faculty action), supervise independent study. Such recognition requires an appropriate appointment plus a record of active student-faculty interaction at CU Boulder and evidence of a long-term commitment for continued interaction. Nomination and second by tenure-track faculty; requires vote of the faculty.

Appointments are made annually, with the expectation that they will be reviewed by the Department every four years. Reappointment after four years requires a letter of application from the candidate, nomination and second by regular faculty and a vote of the faculty. Promotion requires a record of scholarly activity comparable to regular faculty of the same rank.

## Department of Geological Sciences Salary Equity Evaluation System

Each the Executive Committee of the Department of Geological Sciences reviews the performance of its regular faculty during the preceding calendar year based on an evaluation of teaching, research and service, according to each member's Differentiated Workload. This merit review then becomes the basis by which compensation increases are awarded. Although the annual review process provides a reasonably objective measure of merit in a given year, it is possible that over a series of years the annual salary of the faculty will not accurately reflect career merit. This may arise as a result of the natural ebb and flow of faculty productivity with respect to the highly variable year-by-year allotment in total dollars available to the Department for faculty salary increases, by the lack of recognition of the importance of a specific contribution in the year it is made, or due to other small but systematic biases associated with any review system. This document specifies the process by which systematic inequities in compensation among faculty in Geological Sciences may be identified, and defines the procedures the Department will use to address salary inequities and handle salary grievances raised by individual faculty.

Annual Review of Salary Equity: The Salary Equity and Grievance Committee, consisting of three elected representatives from the regular faculty, will consider the status of the Department's salary structure in terms of career merit, gender and race. To facilitate this review, the Chair will provide the Committee with the following documents:

- A scatter plot of weighted academic year salary vs time since PhD for all regular CU-B faculty with Professorial appointments in Geological Sciences.
- A spreadsheet with faculty names, academic ranks, date of PhD , unit in which the FTEs are based, and weighted academic year salaries.
- Access to tenure/promotion/post-tenure-review dossiers.
- Access to the preceding eight years of Annual Evaluation scores.

The Salary Equity and Grievance Committee will report to the Departmental Executive Committee prior to the annual merit review, with an assessment of salary equity issues within the Department, and recommendations to address any identified inequities. The Chair of the Executive Committee will report any identified salary equity issues for faculty rostered in units outside the College of Arts and Sciences directly to the Unit Heads. Faculty rostered within the College of Arts and Sciences with salary inequities will be addressed by the Executive Committee in the annual distribution of compensation increases.

Definition of Career Merit: Career is defined as years since receiving the PhD degree. The basis of the merit evaluation is defined in the Rules of the Campus. Career merit includes performance in teaching, research and service, in accordance with each faculty member's Differentiated Workload. The evaluation of career merit requires a thoughtful and deliberate process, and cannot, in reality, be done well in-house or on an annual basis. Because it is inappropriate to evaluate career merit only by a simple averaging of annual merit scores, the Salary Equity and Grievance Committee will utilize the in-depth evaluations that occur when faculty are considered for tenure, promotion and post-tenure review. In these dossiers, faculty are evaluated following the procedures outlined in the Departmental Bylaws under Policies for Reappointment, Promotion,
and Tenure (attached). This includes multiple means of evaluating undergraduate and graduate teaching performance.

Recognizing that not all faculty will have undergone tenure or promotion review, the Salary Equity and Grievance Committee will also compile annual merit scores for the preceding eight years to aid in evaluating career merit. In determining annual merit, the Department relies primarily on the information contained in the annual Faculty Report of Professional Activities (FRPA), supplemented by up to two pages of narrative supplied by each faculty member to address activities not adequately covered in the FRPA. Extending the annual merit scores beyond eight years is inappropriate as all faculty will have undergone comprehensive review within that time, and the composition of the faculty typically changes enough in any eight-year interval to limit the utility of older annual merit evaluations.

Automatic Review at Promotion or Tenure: Because the short-term metrics necessarily used for the annual merit review lack many important measures of merit, the Equity Committee will take advantage of the additional information present when faculty members are advanced for promotion or tenure by vote of the faculty. Such review will examine the materials collected for promotion or tenure, including external letters, teaching evaluations, and letters from present and former students. This review will follow College and University guidelines for comparing the faculty member in question with other members of the faculty. The Committee will report to the Executive Committee prior to the annual merit exercise their recommendations for any increase in salary beyond the standard increase provided by the College for promotion.

Salary Grievance Process: A member of the regular faculty in Geological Sciences rostered through the college of Arts and Sciences may at any time file a salary equity grievance claim based on career merit, race or gender. The procedure by which a claim may be filed and the grievance resolved are outlined below:

- The grievant will notify the Chair of the Salary Equity and Grievance Committee in writing of his or her intent to file a salary equity grievance.
- Within one week following receipt of notification of intent to file a grievance, the Chair of the Salary Equity and Grievance Committee will meet with the grievant to explain the criteria employed by the Committee to assess salary equity and to outline the grievance procedure process. The grievant will identify a subset of the faculty that form the basis of the claim.
- Within one week of this meeting, the Chair of the Salary Equity and Grievance Committee will make available to the grievant the dossiers of the faculty that form the basis of the claim.
- The grievant will submit a written salary grievance claim, accompanied by supporting documentation. The grievant may file a salary equity claim based on career merit, gender, race or other basis.
- Within one week of receipt of the written claim, the Chair of the Salary Equity and Grievance Committee will call a meeting of the Committee to review the material provided by the grievant. The Salary Equity and Grievance Committee will consider quantitative and subjective arguments in support of the claim, and may require additional information, including interviews of peers or the grievant to reach a decision.
- Within 30 days of receipt of the written claim, Salary Equity and Grievance Committee will produce a written report describing the results of the Committee's deliberation and the recommendation for a specific salary increase should the Committee's decision support the
claim. The report of the Committee will be transmitted to the grievant in writing and orally within a reasonable time after a decision has been reached.
- If the recommendation is for a specific salary adjustment in favor of the grievant, then the report of the Salary Equity and Grievance Committee will also be transmitted to the Executive Committee. Any recommended salary increase will have a first claim on at least $50 \%$ of the upcoming salary increase awarded to the Department.
- If the Salary Equity and Grievance Committee decision is unfavorable to the grievant, the grievant will be advised of their rights to appeal to a higher University authority.
- The written grievance, and the responses of the Salary Grievance and Executive Committees to the claim will become a part of the personnel file of the grievant.

Salary Equity File: A file will be held in the Department Office containing the following items:

- This document
- scatter plots of weighted academic year salaries vs years since PhD
- a spreadsheet that lists all faculty, current weighted academic year salaries, year of PhD , and unit in which each FTE is rostered.
- Current CVs for all regular faculty in Geological Sciences


## Distribution of raises among faculty and instructors

The department is required to assign raises each year, to be distributed from a salary pool received from the College. The process is described in detail in Appendix H (Faculty Raise Process). Here we briefly list the principles to which we adhere. We first strive to maintain salary levels at the same purchasing power year to year (i.e., adjusting for inflation) and then allocate remaining funds using the merit scores determined for each individual. We also acknowledge that there may be faculty members whose pay is for whatever reason deemed to be below those of their peers (in "deficit"). The process followed in any particular year depends upon the size of the salary pool handed to the department to distribute. In any case we set aside a fraction of the pool to address deficits. The remaining pool is distributed according to a combination of base pay and merit allocations.

## Appendices

It is the intent of the Department that the Appendices are more easily modified than is the body of the bylaws document. We have therefore added to the top of each Appendix a line indicating the last time that particular Appendix was modified or voted upon.

## Appendix A: Standing Committees

A simple list of the standing committees as of May 2023.

## The BAJEDI Committee

BAJEDI stands for Belonging, Accessibility, Justice, Equity, Diversity, and Inclusion, is pronounced "Be a jedi", and aligns with the current NSF nomenclature. As this is a fast-moving field the name may change while the spirit of this standing committee will remain. The BAJEDI Committee shall consist of four members appointed by the Department Chair and two graduate student members elected by the Geological Sciences Graduate Association, plus one undergraduate participant, to be solicited and appointed by the Committee Chair. To facilitate continuity of effort and retain a line of institutional memory of committee activities and procedures, faculty terms will be staggered two-year terms. The Chair of the committee is appointed by the Department Chair. Appointment of the committee Chair and committee members shall be with the concurrence of the faculty of the Department. Committee members shall be with the concurrence of the faculty of the Department.

The committee is charged with the following responsibilities:

1. To develop and oversee initiatives aimed at increasing the diversity of the department students, faculty and staff. Specific duties also include, but are not limited to, review of applications for the Departmental diversity fellowship and oversight of the Department's participation in the AGU Bridge program.
2. To provide programs and/or training opportunities intended to promote inclusivity, respect and appreciation of all members in our community
3. To develop and review processes and mechanisms to support all faculty, students and staff with diverse backgrounds and to ensure effective, equitable treatment of all individuals in the Department.

## Committee on Graduate Admissions and Financial Aid

The Committee on Graduate Admissions and Financial Aid shall consist of one member of each interest group, as well as the Graduate Associate Chair. The Chair of the committee is appointed by the Department Chair. Appointment of the committee Chair and committee members shall be with the concurrence of the voting faculty of the Department. The Associate Chair for Graduate Affairs serves ex officio as a member of the committee.

The committee is responsible for the orderly evaluation and admission of graduate students, and for the nomination and recommendation of candidates for scholarships and fellowships administered by the Graduate School.

## Committee on Graduate Curriculum and Academic Planning

The Committee on Graduate Curriculum and Academic Planning shall consist of one member from each of the major discipline groups and a student member elected by the graduate students in the

Department. The faculty members and Chair of the committee are appointed by the Department Chair. Appointment of the committee Chair and committee members shall be with the concurrence of the voting faculty of the Department.

The committee is charged with following responsibilities:

1. To make a continuing review of graduate curricular matters of concern to the Department, including new course proposals, course revisions, guidelines on standard procedures in the graduate program, and degree requirements, to make appropriate recommendations to the faculty, and where appropriate to the College Committee on Courses.
2. To concern itself with short- and long-term academic planning of the graduate academic program and to make appropriate recommendations to the faculty.

## Committee on Undergraduate Curriculum and Academic Planning

The Committee on Undergraduate Curriculum and Academic Planning shall consist of three or more members appointed by the Department Chair. The Chair of the committee is appointed by the Department Chair. Appointment of the committee Chair and committee members shall be with the concurrence of the faculty of the Department. The department's academic advisors will be non-voting members of the committee.

The committee is charged with the following responsibilities:

1. To make a continuing review of all undergraduate curricular matters of concern to the Department, including new course proposals, course revisions, and degree requirements, to make appropriate recommendations to the faculty, and where appropriate to the College Committee on Courses.
2. To concern itself with short- and long-term academic planning of the undergraduate academic program and to make appropriate recommendations to the faculty.

## Committee on Sample Preparation Lab and Educational Resource (SamPLER) Facility

This faculty committee oversees the Sample Preparation Lab and Educational Resource (SamPLER) lab, which serves as a core GEOL facility used by our faculty, graduate and undergraduate students. The facility provides safe, functional, and clean equipment, where users can separate minerals, make rock powders, cut rocks, construct grain mounts, and polish materials. Major equipment in this facility includes the jaw crusher, disc mill, ball mill, core drill press, thinsection saw/polisher, trim saws, slab saw, hand polishing equipment, automated single disc polisher, automated multi-sample polisher, ovens and hotplates for drying and curing samples, epoxy mounting equipment and fume hood. For teaching, the Department depends on the SamPLER facility to prepare samples for courses (cutting, mounting, polishing or resurfacing) and as a management center for a wide range of teaching materials, including an array of rock and mineral specimens. The Chair of the SamPLER committee also serves as the direct supervisor of the student lab manager, the position for which is funded in equal proportions from the department and internal lab funds. The lab funding is acquired annually through voluntary fees from faculty who are the most active users. The faculty committee consists of 4 members.

## Appendix B: Ad Hoc Committees

A simple list of active ad hoc committees as of May 2023.

## New Grad Student Retreat/TA training/onboarding

Tis committee is in charge of the events surrounding the onboarding of the new graduate student cohort in the Fall semester. It includes and is guided by the graduate program coordinator (GeoGPA).

## Colloquium committee

Consisting ideally of 3 individuals, this committee is charged with organizing and running the weekly Geological Sciences Colloquium.

## Awards committee

Ideally consists of 3 faculty members whose task it is to announce the calls for nominations and proposals for awards in the Spring, assess each for its merit, and make decisions on who gets what awards. To this is added oversight of occasional award calls that come in from other organizations, for which we are asked to nominate an individual, or to broadcast the call to students.

## PUEC committees for reappointment and promotion cases

These are discussed in the body of the bylaws under the reappointment and promotion headings. They consist of 3 faculty members. The members are chosen by the Chair so that the discipline is well represented, maximizing familiarity with the candidate's field. One or more of the faculty mentors of the candidate may be selected. Ideally the committee is defined in the Spring semester before the candidate's promotion process begins. The committee is chosen in collaboration of the candidate, but it is ultimately the Chair's decision.

## Analytical Facility and Space (SFAC)

This committee provides oversight over the allocation of space within the building, and handles issues that arise regarding specific facilities such as labs. Ideally the committee consists of faculty members who are knowledgeable of the labs in Benson. They are appointed by the Chair.

## Geology News editors

The long tradition is that the newsletter is assembled by Dan Mitchell with the assistance of the Chair. The chair and Dan both announce a call for submissions. In the last the News was published and sent to alumni in the mail. It is now published electronically and passed to the email addresses of alumni.

## Faculty mentor teams ( $\mathbf{2}$ senior faculty for every junior faculty)

Each new assistant professor is assigned two faculty mentors. These are chosen in collaboration between the faculty member and the Chair to maximize the oversight and advising of the new faculty mentor. The mentoring protocol is described in detail in the body of the bylaws.

## Quality of Teaching Initiative (QTI)

This committee is in charge of continuing to address issues related to defining good teaching practices, and assembling documents that will aid in all aspects of this endeavor.

## Appendix C: Evaluation of Quality Teaching

A broad outline of the evaluation process as of May 2023, with three specific documents attached separately.

The Department is committed to teaching that is inclusive, goal-oriented, and scholarly over time and at all ranks. Furthermore, the Department is committed to the ongoing growth of its faculty as educators and as a community of geoscience educators. Thus, the evaluation of teaching emphasizes formative feedback that has a developmental focus, which is aimed at highlighting accomplishments in teaching as well as potential areas for ongoing growth.

The evaluation of teaching quality is informed by three voices - peer observers, students, and self. As a result of the Department's participation in CU's Quality Teaching Initiative (QTI) during the 2021-2022 and 2022-2023 academic years the following documents were developed to guide the assessment of teaching quality for all Regular, Instructional, and Other faculty:

1) Guidance for writing your Faculty Statement on Teaching
2) Procedure for peer review of teaching
3) Procedures for soliciting student letters about teaching

Documents with further guidance on the details of the peer review process are available on the GEOL web site.

## Guidance for Writing your Faculty Statement on Teaching ${ }^{1}$

Draft of guidance document provided by the QTI committee, presently being reviewed by the faculty for vote May 2023.

When preparing to write your Faculty Statement on Teaching for reappointment, promotion, and tenure, we recommend reflecting on the following components of effective teaching and incorporating them into your statement. When preparing your statement, reflect on the most relevant/important/interesting components of your teaching and tailor your statement to them. For tenure review, a typical statement is one to three pages. Not every statement is expected to address every component.
As you think about turning your reflections into your written statement, keep in mind that you want the structure and language to engage the reader. For every level of review there are at least two people assigned to evaluate your dossier, some of whom are required to thoroughly read all components - it is important to remember that these reviewers will likely not be in your discipline. In particular, consider ensuring that:

- Specific examples from multiple courses and/or data are used to bolster statements. It may be helpful to synthesize across courses rather than describe each course separately.
- Consider sharing your statement with a colleague for friendly review before submission.
- Consider using a theme/frame and prior work that highlights your teaching approach.
- If you included a teaching portfolio or evidence of student learning and/or examples of student work, then reference them in this document.

The following prompts arise from a 4-dimensional framework that emerged from discussions about teaching quality in the GEOL Department during the time of A\&S's Quality Teaching Initiative.

## Terms \& Definitions Used in the Prompts*

Teaching: instructor activities related to formal course instruction (includes not only in-class teaching but also time/activities outside of class to prepare to teach)

Mentoring: developing a long-term relationship in which experiential wisdom is offered to help build the many aspects of a learner's academic and professional careers
Advising: offering strategies about a specific event (e.g., what classes to take, where to find undergraduate research opportunities, how to use online tools for job searches), which the learner may or may not follow
*Definitions are partially informed by National Center for Biotechnology Information. To learn more about the qualities of good mentoring and advising, visit the Science Education Resource Center.

## Prompts

## 1. Inclusive Teaching

a) What steps did you take to ensure a welcoming and safe (i.e., inclusive) learning environment for all students, including those from historically minoritized groups?
b) What steps did you take to address diverse perspectives and equity in your teaching practices (e.g., how did you adjust your teaching, mentoring, and/or advising practices in
response to individual under/graduate student differences and needs)?
2. Goal-oriented Teaching
a) What knowledge, skills, and attitudes are important for student success in your discipline?
b) What goals do you have for your students, and how do you communicate these goals to your students?
c) How did you structure your course(s) around these learning goals? How did you assess what students were learning (i.e., what assessment tools did you use and why)?
d) Based on your assessments of student learning, student feedback, and your observations, to what extent were students successful in achieving the learning goals? What modifications, if any, do you plan to make to your learning goals and/or structure of the course(s)?
3. Scholarly Teaching (evidence-based pedagogies)
a) What teaching methods do you use? What assignments, assessments, and learning activities are implemented in and out of the classroom? How do these methods contribute to your goals for students?
b) What did you do to expand your knowledge about effective teaching practices in your discipline and/or related disciplines (e.g., professional development programs participated in, conference sessions or short courses attended, teaching-focused journal articles read, etc.)?
c) How did you apply/implement what you have learned about effective teaching practices in your discipline and/or related disciplines into the course(s) you taught (i.e., what did you learn, where did you learn it, how did you apply/implement it)?
d) How do you assess student learning (e.g., tests, homework, presentations, papers, projects, classroom discussion) and why? How are they aligned with your course goals?
e) Based on your assessments of student learning, student feedback, and your own observations, how successful, in your opinion, was your implementation of your teaching methods? How might your implementation be modified in future iterations of your course(s)?
4. Educator Growth \& Teaching Community Involvement
a) Reflecting upon the last year, how has your teaching changed and were these changes informed by assessments of student learning, peer feedback, and/or other sources of information?
b) How did you mentor undergraduate and/or graduate students?
c) How did you contribute to the teaching culture in the department, college, campus, university, and/or elsewhere?

1 An adaptation of the (1) Math guidelines for preparing a teaching statement, (2) Physics guideline for preparing a teaching statement, and (3) A\&S QTI guidance for developing such guidelines.

Procedure for Peer Review of Teaching<br>University of Colorado Department of Geological Sciences Peer Course Evaluation Policy

Draft of procedure document provided by the QTI committee, presently being reviewed by the faculty for vote May 2023.

## 1. Overview \& Purpose

The Department of Geological Sciences (GEOL) is committed to teaching that is inclusive, goaloriented, and scholarly (i.e., implementing evidence-based pedagogies) over time and at all ranks. Furthermore, GEOL is committed to the ongoing growth of its faculty as educators and as a community of geoscience educators. Thus, the evaluation of teaching emphasizes formative feedback that has a developmental focus, which is aimed at highlighting accomplishments in teaching as well as potential areas for ongoing growth.

The peer review process below describes opportunities to observe colleagues' teaching and have one's own teaching observed. The process is designed to (i) provide consistency in scheduling observations and evaluating teaching; (ii) encourage self-reflection on one's teaching; and (iii) focus on one's ongoing educator professional development by setting teaching goals, self-monitoring those goals, and constructive peer feedback that supports continual educator growth.

## 2. Volunteer Peer Reviewers

At the beginning of every semester, the Undergraduate Chair will (i) prepare a list of faculty members who require a peer evaluation as part of preparing for their Reappointment, Promotion, and/or Tenure Review and (ii) solicit volunteers to conduct peer evaluations of teaching (this could be done the same way the Chair schedules Parade of Professors' faculty introductions, using Google Sheets).

Faculty members not on the list who would like to have a peer review of their teaching conducted that semester can submit a request to the Undergraduate Chair to be added to that list.

Volunteer peer observers will contact the person whose teaching they volunteered to review and arrange to complete that peer review. If for any reason an individual whose teaching is to be reviewed objects to having the volunteer peer observer conduct a review of their teaching, then the individual should bring this concern to the Undergraduate Chair.

For their time and effort in peer review of teaching process, volunteer peer reviewers will be recognized in their annual merit review evaluations. With the existing merit review process, recognition would be given under the category of Teaching. Each peer review is worth 0.5 increments in "Beyond Meets Expectations" in the rubric for annual evaluations. They will be recognized in the area of Teaching instead of Service because (i) the peer review of colleagues’ teaching is most similar to the types of advising/mentoring activities already described under the area of Teaching rather than the area of Service, as described in the document titled "Faculty Expectations for Annual Evaluations Department of Geological Sciences." Should the existing
merit review process be changed, recognition for conducting peer reviews of teaching should be incorporated into the new process.

## 3. Peer Review Process

This section describes a standard process of peer review for use in classroom/auditorium and field teaching environments. It also includes optional add-ons to the standard baseline process.

### 3.1. Standard Peer Review Process

The standard peer review process includes three main parts: (i) pre-observation meeting in person, via Zoom, or over email; (ii) observation of teaching; and (iii) submission of the peer review.

### 3.1.1. Pre-observation meeting

Prior to the in-person meeting, the observer should request and review a copy of the syllabus, including course learning goals. The observer can also review optional materials, such as class handouts/exams, the course management system, prior FCQs, etc.
The observer should set up an in-person meeting with the instructor being observed before any classroom observation. At this meeting, the observer and instructor should discuss:

1. Scheduling the class observation
2. The goals of the course and the class session to be observed
3. Course materials that pertain to the class session to be observed
4. The observation criteria to focus on
5. Optional: using the last $10-15$ minutes of class session for observer to interview the class
6. Optional: scheduling an in-person/Zoom/email meeting to debrief the Peer Review before the observer submits it to the GEOL Department

The observer and instructor also may discuss supplementing the course evaluation process with additional forms of data, such as ASSETT's Visualizing Instructional Practices (VIP) service.

### 3.1.2. Classroom Observation

The number of classroom observations will be determined by the instructor and the observer. As a guideline, 1-2 classroom visits over the course of the semester are recommended for pre-tenure faculty members and 1 is recommended for post-tenure faculty members.

### 3.1.3. Post-Observation Submission of Peer Review

After a classroom observation is completed, the observer will prepare and share a Peer Review with the instructor before submitting it to GeoAdmin, who will maintain these records for inclusion in Reappointment, Promotion, and/or Tenure Review cases. Peer Reviews will be submitted via GoogleForms, MicrosoftForms, or Qualtrics (or other similar platform) to facilitate the collection, organization, and archiving of these documents. Sharing the Peer Review with the instructor is (i) a means for sharing constructive feedback with the instructor; (ii) a chance for the instructor and the observer to discuss what they could learn from each other's teaching and observations, respectively; and (iii) an opportunity for the instructor to provide input, corrections, and/or additional information that the observer requests and/or that the instructor would like to
have included. The Peer Review is to be finalized and submitted to the GEOL Department's GeoAdmin within one month following the close of the semester in which the teaching observation was made.

The Peer Review should address the observation criteria selected from the Peer Observation Protocol and, where applicable, other elements of the course evaluation (e.g., evaluation of course materials, pre-and post-consultations with the instructor, interactions with students, etc.). The report will be added to the observed faculty member's personnel file for comprehensive review, reappointment, promotion, tenure, post-tenure review, and other purposes such as nominations for prizes and awards.

## 4. Frequency of Peer Reviews

4.1. Assistant Professors and pre-tenure faculty members must have on file with GEOL's GeoAdmin at least three written Peer Reviews of teaching based on classroom observations prior to their comprehensive review. It is important to complete observations early in the precomprehensive review stage with the first observation taking place in the first year of teaching, where feasible. This may be adjusted to accommodate those with reduced teaching loads.
Following comprehensive review, pre-tenure faculty must have on file with GEOL's GeoAdmin at least three additional written Peer Reviews of teaching based on classroom observations before their tenure review.
4.2. Associate Professors should be observed at least once every other year until a minimum of three reports are on file. Thereafter, the schedule can be more flexible and responsive to the needs of the faculty and department as a whole. At least one observation in the year prior to promotion review is desirable.
4.3. Full Professors should be observed at least once every 5 years as part of the post-tenure review process.
4.4 Instructors and Senior Instructors should be observed once per year.
4.5 Lecturers, postdocs, and other ranks not included above should be observed at least once in their first semester of teaching and then at the discretion of the Undergraduate Chair.
A faculty member may request to be observed at any time; additional observations may also be requested by the Department Chair. The Department Chair is responsible for accommodating reasonable requests for observation, as personnel and schedules allow.

## Procedure for Soliciting Student Letters

Draft of procedure document provided by the QTI committee, presently being reviewed by the faculty for vote May 2023.

## 1. Overview \& Purpose

The Department of Geological Sciences (GEOL) is committed to teaching that is inclusive, goaloriented, and scholarly (i.e., implementing evidence-based pedagogies) over time and at all ranks. Furthermore, GEOL is committed to the ongoing growth of its faculty as educators and as a community of geoscience educators. Thus, the evaluation of teaching emphasizes formative feedback that has a developmental focus, aimed at highlighting accomplishments in teaching as well as potential areas for ongoing growth.

The evaluation of teaching quality is informed by three voices - peer observers, students, and self. Student letters are one way to solicit students' perspectives on and experiences in the courses they completed.

## 2. Solicitor \& Frequency

Student letters are solicited by the Department Chair for inclusion in faculty members' reappointment, promotion, and tenure cases.

## 3. Solicitor's Letter

Dear past student:
The Department of Geological Sciences at the University of Colorado Boulder is considering Dr. for reappointment/promotion to Associate Professor, and award of tenure/promotion to Full Professor. As a vital part of this process, student evaluations of their/her/his performance as a teacher and/or mentor [include "advisor" for faculty members with advising roles], both in and out of the classroom, are being solicited. It is for this reason that we are contacting you, in the hope that you will provide us with your honest assessment of Dr. _ in one or more of these roles. If you are willing to help us in this effort, please provide a written letter of your evaluation, addressed to the Department Chair, Dr. _ ( @colorado.edu), on or before _. We ask that you also please cc the chair of the evaluation committee, Dr. __ (_ @colorado.edu) and geoadmin@colorado.edu.

Below are suggested prompts to address in your written letter:
(1) What is something valuable/important to you that you learned from __?
(2) What do you think __ did especially well in their role as your teacher and/or mentor [include "advisor" for faculty members with advising roles]?
(3) What suggestions do you have for how __ approaches teaching and/or mentoring in the future?
(4) Is there anything else that you would like to share about $\qquad$ as part of this evaluation process?

No identifiable statements will be shared with your teacher and/or mentor. Your statements are considered confidential under the policies of the University and are not subject to disclosure under the Colorado Open Records Act, except as otherwise may be required by court order or by law.

If you have any questions, please feel free to contact me.
Sincerely, and with thanks for your willingness to participate in this process.

## 4. De-identified Letters

Student letters can provide valuable formative feedback for an instructor, mentor, and/or advisor. Upon completion of the reappointment/promotion/tenure case, de-identified student letters can be shared and discussed with the faculty member to support their ongoing faculty development as a teacher, mentor, and/or advisor. Either the PUEC or the faculty member can initiate the sharing and discussion of de-identified letters. Prior to sharing student letters all students' names and identifiable statements must be redacted will be redacted by the PUEC.

## Appendix D Annual merit evaluation process

Snapshot of annual merit process carried out by the Geological Sciences Department AY20222023.

## Instructions for documents to provide to Excomm for their annual evaluation

We provide here instructions for the materials to be provided to Excomm in the annual review process. You will see that this continues to evolve, but we continue in the same direction of asking for less, of assuring that the exercise is somehow made "useful" to junior faculty, and certainly of reducing the stress for all.

## Junior faculty (those not yet tenured)

For junior faculty, there are two purposes for this evaluation: 1) assessment of the degree to which you are on track for tenure, which we view as a guidance exercise, and 2) assignment of salary. We disconnect the two processes.

Guidance: Please fill out your self-evaluation form (example form in Appendix E). Note that we ask for no filling in of "scores" across the top of the form. The form is therefore a condensation of this year's FRPA with a few nuggets from prior years. We also ask you to answer the questions at the base of the form, which allows you space to summarize issues you experienced during the last year and those you anticipate encountering in the near future. Excomm will examine your FRPA plus this table with accompanying answers to the questions to evaluate your progress toward promotion. This evaluation will then be shared with your two mentors. You and the mentors will then meet with the chair for a free-form discussion of how you are doing. If there is a sense after that meeting that there is a disconnect between what Excomm sees and what the faculty member/mentors see, then a joint meeting with Excomm will be called.

Salary: See Appendix H for description of the salary assignment process.

## Senior faculty, Teaching faculty and Research faculty

We take the view that rigorous evaluation occurs rarely but that this evaluation is more useful than the incremental evaluation that occurs annually. For senior faculty, teaching faculty, and research faculty, we will lean on the fact that faculty are closely evaluated at promotion steps. We will use the promotion documents (e.g., chair letter and PUEC report) to compute a score, which then follows the faculty member until the next promotion or post-tenure review (PTR) occurs (roughly every 5 years).

For those who have gone through a promotion in the past 4 years, Excomm will perform this evaluation this year. These faculty members will therefore be exempt from filling out the department form.

We further propose that other senior, teaching and research faculty will receive the average merit score of the evaluated faculty until their next review cycle. They too do not need to fill out the department form. Any member can appeal (whether to Excomm for the current score or to the Salary Equity and Grievance Committee for salary overall). The only exception to this procedure will be triggered by the receipt of major awards, as these too represent careful examination of a
faculty member's accomplishments and stature within their community. Here we define a major award as an award from a society or institution that requires more than one support letter. A faculty member who receives such an award will alert the chair to this happy event. The updated CV, most recent promotion files, and submitted support letters (if available and not confidential) will then be reviewed by Excomm.

Bottom line: No senior, research or teaching faculty needs to fill out anything beyond the campusrequired FRPA.

Salary: See Appendix H for description of the salary assignment process.

## Appendix E: Example Faculty Self Evaluation Form

Self-evaluation form used by the Geological Sciences Department AY2022-2023.
Name: $\qquad$
Differential Work Load (typically 40:40:20), or if in the museum with curation, which we do not evaluate, (20:40:20:20)
fall: spring:
average:
Notes: Only classes and research publications are summed over two years. Publications are counted as published when they are officially accepted, have the final DOI and are available online or in print to read).

| Teaching | Research | Service |
| :--- | :--- | :--- |
| Courses taught: include credit hours, <br> number of students | Published Refereed papers, note <br> number of first-authored, and first- <br> authored by your students. List just <br> the numbers here, not the paper <br> titles, which are in the FRPA <br> 2022: | Service to Department \& Institutes |
| New courses taught: | 2021: <br> Papers in press: | Papers submitted (in review): |
| Funded Postdocs supervised | Proposal activity: agency, PI, duration | Service to campus \& university |
| Grad students supervised <br> note if co-supervised <br> Technicians funded by the faculty at > | Continuing and no-cost extensions: |  |


| Undergraduate student supervision <br> Advising undergrads completing <br> research | Other Research Products and Efforts | Service to professional societies |
| :--- | :--- | :--- |
| Other supervising |  |  |
| New teaching methods implemented | Research Awards | Service to community |
| Teaching award | Comments | Comments: |
| Comments: |  |  |

Please list the publications from the last 3 years:

You must also submit a brief narrative (1 page maximum!), which should include your answers to:

1) What makes what you are doing significant? (or something that speaks to importance)
2) What are you proud of from the last year? (3 items max)
3) What are your goals for the next year?
4) What issues do you face in accomplishing these goals, and how can the department help? These could include a bulleted list of lingering COVID-related issues.

## Appendix F: Graduate Student Mentoring

Snapshot of student mentoring guidelines of the Geological Sciences Department AY2022-2023.
Here we summarize the main guidelines for the mentor/advisee relationship:

1. Mentors and advisees shall meet on a regular basis to discuss the advisee's progress toward degree completion, to ensure that the student is on track to graduate in a timely manner.
2. While not required, it is strongly recommended that mentors and advisees establish a formal mentorship agreement (see appendix for examples that can be used and adapted) soon after the advisee begins their program in the department.
a. If a mentor utilizes departmental and/or university resources to fund their student (e.g., TA-ships or departmental/university fellowships) they may be required to submit a mentor/mentee agreement.
3. In addition to advising, the mentor has a responsibility to acquire and/or work with the student to acquire funding to support their degree, and honor financial commitments made in the advisee's offer of admission. In the case that an advisee's research focus changes to topics outside the expertise of the original faculty mentor and they begin to work with a new advisor, the original faculty mentor can be excused from this funding expectation.
4. Each student will also have a thesis committee, chaired by a member of the GEOL faculty who is not one of their advisors. Should disagreements arise between the mentor and advisee that they cannot work out themselves, the committee will attempt to help resolve the problem. If the committee cannot resolve the issue, it should then be brought to the department chair.
5. If graduate student mentorship by a particular faculty member is determined to be inadequate, and they have not taken steps to improve their mentoring, the faculty member will be barred from admitting new advisees, until it is determined that they have taken steps to change their practices.

In order to provide the best possible guidance for both graduate students and their advisors, the department has constructed three files in which guidelines are laid out for:
4) Advisor roles (see Department of Geological Sciences Advising Roles)
5) Graduate student committees (see Department of Geological Sciences Guidelines for Graduate Student Committees)
6) Graduate student exams (see Department of Geological Sciences Guidelines for Graduate Student Exams)

## Department of Geological Sciences Graduate Advising Roles

[Voted on and approved by faculty April 28, 2023]

Advisor: Regular GEOL Faculty member primarily responsible for directing the research and education of the graduate student. The Advisor takes responsibility for helping the student find financial support as needed.

Co-Advisors: Two people share the research, education, and financial responsibilities for one student. In sum, these responsibilities should be approximately equal between the two CoAdvisors, and are to be agreed upon in a signed Memorandum of Understanding (MOU). CoAdvisors may both be Regular GEOL Faculty, or one may be while the other is not.

## Unequal co-advising when lead is not Regular GEOL Faculty:

Research or 'De Facto' Advisor: The person primarily responsible for directing the research and education of the graduate student takes this title when they are not a member of the Regular GEOL Faculty. Examples include GEOL Research Associates, GEOL Lecturers, institute members, and (under rare circumstances) Faculty from other departments. The De Facto Advisor normally provides at least partial funding for the student, agreed to in a signed MOU. The De Facto Advisor must partner with a Regular GEOL Faculty member who serves as De Jure Advisor.

Departmental or 'De Jure' Advisor: Regular GEOL Faculty member who fills the role of Advisor on paper, when there is a De Facto Advisor. The De Jure Advisor is responsible for ensuring that the student's progress and achievements are commensurate with normal GEOL expectations, agreed to in a signed MOU. They may be a collaborator or advisor on the student's research, but not necessarily at the level of the De Facto Advisor.

Per CU campus rules, "Regular GEOL faculty" are assistant, associate, and full professors tenured or on tenure-track appointments, whose tenure resides in the Department of Geological Sciences; also assistant research professor, associate research professor, and research professor in the Department of Geological Sciences.

See example template for MOU between Co-advisors, De Facto and De Jure Advisors.

# Department of Geological Sciences Guidelines for Graduate Student Committees: <br> Types and purpose, makeup and assembly, and chairing 

[Voted on and approved by faculty April 28, 2023]

## Types and purpose of graduate student committees

The GEOL graduate program has two types of graduate student committees:

## Proto-committee

The Proto-committee is a 3-person committee whose sole purpose is to provide initial guidance and to meet once early during the student's first semester. This meeting should involve discussion of the student's goals, interests, strengths, and weaknesses. In addition, the Protocommittee will help the student and their Advisors(s) develop an initial plan for courses, research activities, and milestones that will guide the student toward a timely and successful master's thesis defense or PhD comprehensive exam. At the conclusion of the Proto-committee meeting, two documents will be submitted:
> 1) The student, with feedback from their Advisor(s), will complete the First Semester Committee Meeting Summary form, summarizing the meeting's outcomes, obtain signatures from the Committee, and submit this signed form to the Graduate Program Administrator (GPA) for inclusion in the student's academic file.
> 2) Committee and student will also complete the Committee Meeting log and fill out Year 1 column signatures, plus have the Graduate Program Administrator sign and date at the bottom of the Meeting Log form.

## Advisory committee

The second type of graduate student committee is the Advisory Committee, the purpose of which is to provide comprehensive and supportive assistance to the student towards their pursuit of a graduate degree, and to ensure University-wide standards are met for the quality and rigor of CU Boulder theses, dissertations, and graduate degrees. While the student and Advisor(s) have the primary partnership, the rest of the Committee members should also be available to provide coaching, advising, and clarification on standards and procedures for the pursuit of the degree, either together during committee meetings or separately at times in between meetings. The Advisory Committee also conducts both the Comprehensive Exam and the Thesis/Dissertation defense, and is responsible for deciding by vote whether the student passes these milestones. Therefore, the Faculty Advisor(s) and Advisory Committee are also responsible for helping the student create a course plan and general research plan to prepare them for a timely Comprehensive Exam or Defense. The Advisory Committee will be formed by the end of the student's third academic semester in the program (e.g. start in fall: fall, spring, fall = formed by end of fall) or the student will be out of compliance with making adequate academic progress.

## Composition and assembly of committees

## Assembling a Proto-committee

Each incoming student will consult with their Faculty Advisor(s) early in their first semester to choose an appropriate three-person Proto-committee and organize a time and location for the single Proto-committee meeting (see section below on Advisory Committee meetings for steps on how to do this). The Proto-committee should include at least two Regular GEOL faculty. The Faculty Advisor (or one of them if there are Co-Advisors) is the Chair for the Proto-committee. For MS degree candidates, the makeup of the Proto-committee may be the same as their final Advisory Committee, but this is not required. For PhD students, the Proto-committee members may be a subset of their eventual five-person Advisory Committee, but again this is not required.

## Assembling an Advisory Committee

Each incoming student will consult with their Faculty Advisor(s) to constitute an appropriate full Advisory Committee by the Fall of the 2nd academic year (3rd academic semester). Full Advisory Committee membership consists of a minimum of 3 members for MS students and 5 members for PhD students. See the table below for more specific requirements for the composition of the Advisory Committee, and the diagrams at the end of this document for additional visualizations of acceptable and not acceptable examples (Fig. 1 for Master's examples; Fig. 2 for PhD examples).

| Advisory Committee Membership (for Comprehensive Exam and Defense) |  |  |
| :--- | :--- | :--- |
|  | Master's | PhD |
| Chair (cannot be advisor) | Regular GEOL faculty | Regular GEOL faculty |
| Main Advisor | Regular GEOL faculty | Regular GEOL faculty |
| Outside GEOL | n/a | Regular faculty at CU Boulder but outside of GEOL |
| Member | Regular or Special appointment from GEOL or elsewhere | Regular or Special appointment from GEOL or elsewhere |
| Member | n/a | Regular or Special appointment from GEOL or elsewhere |
|  |  |  |
| additional members may be added if desired |  |  |

In consultation with their Advisor(s), a student should ask one of the Regular GEOL faculty members on their Advisory Committee to serve as Chair of their committee; this should occur by the Fall of the 2nd academic year (3rd academic semester) but as early as the summer between their 2nd and 3rd semesters is recommended. The Chair cannot be the student's Advisor(s). This is because the Chair is intended to provide an advisory perspective that is independent of research and financial investments that may exist between the student and their Advisor(s). Therefore, in general, it also is best if the Advisory Committee member who serves as Chair is not directly involved in the student's research. The Chair should be alert for situations where problems or misunderstandings may arise between the student and their Advisor(s) and try to mitigate against them whenever possible. This can include encouraging the parties to establish an Advisor-Student agreement using the Graduate School's template or a more department-specific version once one is available, and/or discussing the situation with the Associate Chair of Graduate Program. At time of defense, if a graduate student has co-advisors, one co-advisor may become co-chair of the defense exam so that, at time of Grad School submission, both coadvisors can sign the Thesis Approval Form.

## Annual Advisory Committee meetings

Departmental requirements are that an Advisory Committee meeting will take place at least once per academic year, in addition to Examinations. Therefore, an Advisory Committee meeting is NOT the same as a meeting for a Comprehensive Exam or a Thesis or Dissertation Defense. Annual Advisory Committee meetings start in the second year, since the Proto-Committee meeting happens in the first year, and should take place in the Fall semester to aid with planning research and other activities for the coming year. If the paperwork for an annual committee meeting has not been filed by the end of the Fall semester, the student and Advisor(s) will receive a warning email from the GPA reiterating the importance of such a meeting and advising them of the deadline. If the Annual Committee meeting does not occur by July 1, this will be considered "not making adequate progress" and thus departmental administrative holds on credit registration and funding appointments may occur. For faculty with students who repeatedly do not hold their Advisory Committee meetings, access to department resources (e.g., TA) for new graduate student recruitment may be withheld.

In consultation with their Advisor(s), the graduate student bears the responsibility for communicating with their Advisory Committee Chair and the committee that they will soon be ready for a meeting. Next steps are for the graduate student to:

1. set the dates and a 1-hour window for the Committee meeting,
2. arrange a room (and/or videoconference preparations) for the meeting, and
3. organize the completion and signing of all necessary forms and their submission following the meeting (in consultation with the Graduate Program Administrator (GPA).

Once the above processes have been initiated by the student, the Committee Chair and the Advisor(s) should provide assistance to the student, if needed, to ensure that all committee members respond in a reasonable and timely manner to inquiries related to the logistics of the meetings and any related forms. If the student has difficulty getting Advisor(s) or Committee members to respond after several attempts, the order in which they should seek help is Advisor $>$ Chair of Committee -> GPA -> Associate Chair of Graduate Program -> Department Chair. Arrangements for the meeting should be made 2-4 months in advance - it is generally easier to find a time when all committee members can meet if the arrangements are made as early as possible and preferably at the beginning of a semester when calendars are not yet full. If a committee member cannot make a meeting either in-person or remotely, then they should communicate that to the student, Advisor(s) and Committee Chair, and the student should arrange to meet with and update the missing committee member as soon as they are available and at maximum, within one month of the Meeting. The missing Committee member will not be expected to sign the Committee Log, but they should review and sign off on the Annual Advisory Committee Meeting Summary form.

The purpose of the Annual Advisory Committee meetings is twofold. First, the meetings are an opportunity for the student to update the committee on the status of their research and degree pursuit, to describe their achievements and/or any challenges, to report on present activities, and to share upcoming goals and endeavors. Second, the meetings allow the committee to provide the student with supportive assistance towards their CU degree, including coaching, advising, and
clarification on standards and procedures, to supplement the guidance provided from the Advisor(s).

The following is a recommended broad structure for annual committee meetings:

| 15 min | - oral presentation by student |
| :--- | :--- |
| 25 min | - open discussion among student and committee members |
| 5 min | - discussion between committee and student without Advisor present |
| 5 min | - discussion between committee and Advisor without student present |
| 10 min | - summary discussion of feedback on student progress, including positive <br> strides and concerns |

The student is primarily responsible for running the Annual Advisory Committee meeting, particularly the first two sections listed above, with help from the Chair as needed. The meeting commonly involves an initial brief oral presentation by the student on research activities, milestones achieved, and the status of other degree requirements. An open discussion can then follow where coursework, research activities and publications, teaching experience, professional development activities, and future financial support plans should all be discussed. During the meeting, if needed, the Chair will strive to facilitate a balanced and comprehensive discussion amongst the Committee members and the student. The meeting should conclude with a summary discussion, led by the Chair, that broadly addresses progress towards the degree requirements since the previous meeting and the goals that the student should aim for before the next meeting. Each committee member should be specifically asked for and should specifically offer feedback and concerns in this final portion of the meeting. This final summary discussion should be reflected in the Annual Advisory Committee Meeting Summary form that is attached to the Committee Log. Note that in the annual Advisory Committee meeting that immediately predates a PhD student's Comprehensive exam, additional points of discussion should include the format and approach that the student will take for the written portion of that exam, as well as the guidelines surrounding the oral portion of that exam. See the associated document "GEOL Guidelines for Graduate Student Exams: Comprehensive exams and dissertation and thesis defenses."

At the conclusion of the annual meeting, two forms need to be completed: 1) Committee Meeting Log and 2) Annual Advisory Committee Meeting Summary form, which should summarize the meeting's outcomes and any feedback or concerns from the committee regarding student progress. The student should fill out the Annual Committee Meeting Summary form, with consultation with the Chair and Advisor(s), for completeness on the narrative. Circulation of the paired Committee Meeting Log and Annual Advisory Committee Meeting Summary form for all Committee members signatures/initials should be initiated by the student via DocuSign within 1 week of the Meeting. Once all committee members have signed the two forms, a copy should go to the Graduate Program Administrator (GPA) for inclusion in the student's academic file. The GPA is available to help with this process.

## Example prompts for student's use in preparing annual committee meeting presentation:

## Coursework

1) List each course taken, the department it was taken in, and the grade received

## Research activities and findings

2) Review what you said you were going to do in the last Committee meeting
3) Research progress made since last Committee Meeting
4) Challenges or questions
5) Publications

## Examples of Professional Development Progress (development as a well-rounded researcher)

6) Presentations
7) Meetings attended
8) Grant and proposals
9) Teaching - list all courses taught, as well as any teaching workshops attended
10) Fellowships and research assistantships
11) Service (encouraged but not required)
12) Outreach (encouraged but not required)
13) Diversity and inclusion
14) Awards - for research, teaching, or service. Include name of award and source.
15) Student to list their biggest (academic) priorities: (and also career goals)

How can we, your committee, help? Plans for the next academic year?
If pre-Comp PhD student, additional questions to address regarding Comprehensive Exam are:
16) What is the format for the written portion of the Comprehensive Exam, especially if it deviates from the proposed format in the GEOL Guidelines for Graduate Student Exams document?
17) What is the structure and general scope of questioning to expect for the oral portion of the Comprehensive Exam, especially if it deviates from the proposed format in the GEOL Guidelines for Graduate Student Exams document?

## Comprehensive Examinations and Thesis/Dissertation Defenses

Examination types in GEOL include Plan I MS Thesis Defenses, Plan II MS Final Exams, PhD Comprehensive Exams, and/or PhD Dissertation Defenses.

As for the annual Advisory Committee meetings, the graduate student bears the responsibility for communicating with their Advisor(s), GPA, and their Committee Chair that they will soon be ready for one of the exams. The graduate student also is responsible for setting the dates and a 3hr window when ALL committee members can attend, organizing all necessary forms and their submission before deadlines (in consultation with the GPA), and arranging a meeting room (and/or stable online mechanism). Similarly, the student's Advisor(s) and the Committee Chair should provide assistance to the student, if needed, in ensuring that all committee members
respond in a reasonable and timely manner to inquiries related to the logistics of the exams and any related forms. Arrangements for the meeting should be made 2-3 months in advance - again, it is generally easier to initiate this process early in a semester when calendars are not yet full even if the agreed upon day ends up being later in the semester. Always check with the GPA to make sure University deadlines are being met.

Ideally, a full annual Committee Meeting should take place prior to and not too distant from the semester in which an Examination is scheduled so that any questions that might be related to logistics, timing, or scope of written or oral presentations or questioning can be addressed and there is time to adjust before the examination. For example, if the Exam will be in the spring semester (e.g., a PhD student with a Masters degree), then the Advisory committee meeting could be held in the prior fall semester. If the Exam is scheduled for a fall semester (e.g., a PhD student without a Masters degree), then the Advisory committee meeting could be held in the preceding summer or spring semester.

A separate document contains more detailed guidance on the structure, expectations and suggested timelines for events leading up to Examinations and Defenses, which the Committee Chair should make sure is available to the student and all committee members - See related document GEOL Guidelines for Graduate Student Exams: Comprehensive exams and dissertation and thesis Defenses.

## GEOL MS and PhD Committee Formation - Compliance Diagrams

GEOL-MS (Masters) Committees:
Advisory Committee Formation(s) for Masters students. Compliant (green check mark) and non-compliant (red X) examples below.

## Compliance. - Hooray! \#1



## Compliance. - Hooray! \#2



## Compliance. - Hooray! \#3



## Compliance. - Hooray! \#4



More than three members is ok with special appointments. Special appointments most likely need PhD degrees to obtain approval and become sanctioned by the Grad school. Email a current CV to GeoGPA@colorado.edu 6 weeks before exam to allow time to obtain approval.

Not in compliance. \#5 - Try again. Advisor cannot also be Chair.


Not in compliance. \#6 - Try again. At least 2 GEOL Regular faculty required.


GEOL-PHD (Doctoral) Committees:
Advisory Committee Formation(s) for GEOL-PhD students. Compliant (green check mark) and non-compliant (red X) examples below.

## Compliance. - Hooray! \#1



Compliance. - Hooray! \#2


## Compliance. - Hooray! \#3



Shemin's Graduate Student

## Compliance. - Hooray! \#4




Shemin's Graduate Student

More than five members is ok with special appointments. Special appointments most likely need PhD degrees to obtain approval and become sanctioned by the Grad school. Email a current CV to GeoGPA@colorado.edu 6 weeks before exam to allow time to obtain approval.
Not in compliance. \#5 -Try again. Advisor cannot also be Chair.


Not in compliance. \#6 -Try again.


Not in compliance. \#7 - Try again.
At least 2 GEOL Regular faculty required.


# Department of Geological Sciences Guidelines for Graduate Student Exams: Comprehensive Exams and dissertation and thesis defenses 

[Voted on and approved by faculty April 28, 2023]

## PhD Comprehensive Exam Guidelines

Purpose: The Comprehensive Exam is used to assess whether or not the student is well prepared to complete a PhD dissertation. While it is not meant to be unpleasant for the student, it is a serious evaluation of their readiness to apply scientific methods and principles at the highest level. The evaluation will be conducted by the full Advisory Committee on the basis of research completed to date, ability to articulate research questions and/or formulate testable hypotheses and a feasible research plan, effectiveness in written and oral communication, and background knowledge and context considered by the committee to be relevant to their research topic and how their work is relevant to the broader scientific community and society. The evaluation is meant to encourage critical thinking and to find the edge of a student's current knowledge, so that the committee can better advise them on how to expand it. Therefore, students should not expect to know the answers to all questions posed, and their passing the exam does not depend on doing so. It is OK to say "I don't know" and the student can instead focus on describing how they might go about finding an answer. The oral exam serves as a platform for a student to display their ability to think critically on their feet and to demonstrate their thought process. It is also an opportunity for the student to obtain focused feedback on their work and to gain confidence in presenting, handling questions, and discussing their science. It is a key milestone in a PhD student's scientific growth.

Timing: For students who hold a master's degree in geological sciences or a closely related field, the Comprehensive Exam must be taken before the end of their fourth semester. For students who do not hold a master's degree, the exam must be taken before the end of their fifth semester. If extenuating circumstances cause a delay beyond these dates, a one-semester extension may be approved by agreement of the student's advisory committee and noted by the Associate Chair of Graduate Program. A copy of this extension agreement will then be placed in the student's file by the Graduate Program Administrator (GPA). A recommended timeline for events that should happen in the semester in which the exam takes place is at the end of this section. Departmental administrative holds on credit registration and funding appointments may occur if the Comprehensive Exam is not taken during the timeframe noted above or if an extension is not approved due to extenuating circumstances. For faculty with students who repeatedly do not adhere to the above timeframe for the Comprehensive Exam, access to department resources (e.g., TA) for new graduate student recruitment may be withheld.

Required paperwork and scheduling: The student must meet with the GPA a minimum of two months prior to their comprehensive exam to prepare the Candidacy Application and Comprehensive Exam form, which are submitted to the Graduate School by certain deadlines. Graduate School forms found here: https://www.colorado.edu/graduateschool/academics/forms-current-students. The graduate student bears the responsibility for communicating with their Advisor, the GPA, and their Committee Chair that they will soon be ready for the exam and for initiating the logistical arrangements. The exam date and a three-hour window should be arranged well in advance of the exam, preferably at least two months in advance. If the student
has difficulty getting Advisor(s) or Committee members to respond after several attempts, the order in which they should seek help is Advisor -> Chair of Committee -> GPA -> Associate Chair of Graduate Program -> Department Chair. See the GEOL Guidelines for Graduate Student Committees for more information on these general procedures and see an example recommended timeline at the end of this document.

Written portion: For the GEOL program, the most commonly accepted format and approach is for the student to write a research proposal. If the student's research is based on a project originally conceived by their advisor, the student must be careful to develop their own independent ideas. The scope of the proposal may cover the entirety of the planned dissertation or a portion of the dissertation (e.g., one chapter). Alternative formats and approaches could include a proposal that describes a peripheral project that may not ultimately be part of the dissertation (or completed while a PhD student) or it could describe the motivation, methods, and results of a first project that has been taken to near completion and thus is close to publicationready. The former alternative scenario might be appropriate in cases where the entire dissertation project has already been closely prescribed by an existing grant proposal or where the student makes a relatively late switch in advisors or projects. The latter alternative is the format typically used by the Geophysics PhD degree and is therefore also considered an acceptable alternative format for the GEOL PhD program if agreed upon by the Advisor and Advisory Committee. The student should discuss the planned format with their Advisor, followed by a discussion of this format and approach at the student's annual Advisory committee meeting prior to the exam.

The length should be 14-15 pages and not exceed 15 single-spaced pages, including figures but excluding references. The proposal should include a realistic timeline, but not a budget or other ancillary documents that funding agencies require. A case should be made for the importance of the proposed research, understandable by an informed (but not necessarily expert) reader. It is standard practice for the student to share a draft of the proposal or manuscript with their Advisor(s) at least 4 weeks prior to the exam for general feedback, comments and suggestions. This is when the Advisor(s) should offer feedback on the content, scope and "readiness" of the document and of the student to move forward with the exam. The CU Boulder Writing Center is an academic support resource (https://www.colorado.edu/program/writingcenter/) that students can use when preparing their proposals. The final proposal or manuscript should be electronically submitted to the five (or more) faculty members of the full examination committee at least two weeks before the exam date.

Oral portion: At the beginning of the three-hour exam window, the student should deliver an approximately 30 -minute presentation that summarizes the written research proposal. Committee members should not interrupt the presentation unless important clarifications are required. Following the presentation, the committee chair will facilitate rounds of questioning in which committee members will take turns asking questions about the proposed research. The standard practice is that committee members ask questions about the written proposal, the presentation, or any knowledge that the committee member feels is important for successfully completing and defending the proposed research or a similar scope around the research if a manuscript format was chosen. Questioning also may include broad questions about the relevancy of the research to the scientific community and society, discipline-specific questions, and questions from faculty with whom the student has taken courses where the course content is relevant or applicable to the
student's research. These guidelines should be reviewed by the Advisory committee and the student in the annual committee meeting prior to the exam. Only the student and the Advisory Committee are present for the exam.

A recommended format is for each committee member to be allotted about 15 minutes during the first round of questioning, followed by a period of open questioning. When the committee is done asking questions (and no later than 2:30 after the start of the exam), the student will leave the room while the committee deliberates for 15 minutes. The student will then be invited back into the room to receive the result of the exam for the remaining 15 minutes of the exam (see below). It is suggested that if any modifications are made to the recommended structure or timing of the exam, that they be discussed between the committee chair and student prior to the exam.

Advisor responsibilities: The student should take independent ownership of the written proposal and presentation, but the Advisor(s) should provide guidance and advice on both. The Advisor(s) should train the student in the ability to frame and articulate research questions and/or formulate testable hypotheses, but assistance should not extend to actual writing or wordsmithing. It is standard practice for the student to share a draft or multiple drafts of the proposal or manuscript with their Advisor at least 4 weeks prior to the exam for general feedback, comments and suggestions. This is when the Advisor should offer feedback on the content, scope, and "readiness" of the document and of the student to move forward with the exam. During the oral exam, the Advisor(s) may choose to ask fewer questions than other committee members.

Chair responsibilities: The Chair of the examination committee (Advisory committee) will communicate with the GPA 4-5 days before the exam to ensure that paperwork is in order. If any committee members must attend the exam remotely, the Chair will prepare a stable online mechanism for full committee engagement. The Chair will set the order of the first round of questioning, and keep time (recommended 15 minutes per member). The Chair will reiterate the previously agreed upon structure of the exam to the student and committee 1-2 weeks before the exam. Following the questioning and during deliberations, the Chair should facilitate a balanced and comprehensive discussion among the Committee members about the strengths and weaknesses of the student's performance in the written and oral portions of the exam, and take notes to be provided to the student as written feedback. The Chair will ask all committee members for their vote of satisfactory or unsatisfactory. The Chair will then immediately convey the results of the exam to the student, including a brief synopsis of the discussion. It is encouraged to share holistic feedback - thus both weaknesses and strengths - with the student at the conclusion of the exam.

Outcomes of examination: There are three possible outcomes of the Comprehensive Exam, decided by majority vote. In order to advance the student to candidacy, three of five committee members (or four if there are 6 committee members), at least two of which must be CU Regular GEOL faculty, must agree to "Satisfactory", either with or without conditions. If an Advisor is in the minority in voting against "Satisfactory" (with or without conditions), the Chair and the Committee will work to try and find a solution. Such a solution might include adding "Conditions" (the second option listed below). If this is not possible, then this scenario will
trigger a deeper review by the Chair and Committee, and a resulting report on the causes or events that led to this scenario should be provided to the Associate Chair of Graduate Program and a copy will go to the GPA for records. The Committee members should indicate their decision of "Satisfactory" or "Unsatisfactory" (third option) on the Comprehensive Exam form within a few days of completion of the exam. See Guide to Graduate Student Advisory Committees for details on makeup of committees.

Satisfactory without conditions: The student passes both the written and oral components of the examination (see Purpose above) to the satisfaction of the majority of committee members, without a consensus by the committee on significant deficiencies that should be addressed (e.g., basis of research completed to date; ability to formulate testable hypotheses; ability to formulate a feasible research plan; effectiveness in written and oral communication; background knowledge that is relevant and critical to their research topic).

Satisfactory with conditions: The student passes most of the examination but the committee identifies significant deficiencies that they feel can be addressed. In this case, the committee shall decide upon a course of action, such as additional course work, revision of the research proposal, etc., to be completed within six months of the examination (excepting further course work, if the identified course(s) is not offered within that time frame). A description of the conditions, a timeline including deadline for their completion, and means of evaluation must all be entered into the exam form. This written communication about conditions should be prepared as soon as possible after the conclusion of the exam, and within 1 week of the conclusion of the exam. The Chair should attach the conditions to the online Workflow Process Exam form. The student will be given a copy of the conditions and a copy will also go to the GPA to be placed in the student's file. Note that a student will not advance to PhD Candidacy status until all conditions are satisfied and signed off on by the Chair of Committee.

Unsatisfactory: If the majority of votes are "unsatisfactory" at the time of the exam, the Chair should guide a discussion by the committee and recommend one of the following options, which should then be provided to the student, GPA, and Associate Chair for Graduate Program:

- The student will be allowed to retake the Comprehensive Exam within a period of time determined by the committee, preferably not to exceed 12 months. In this case, the committee shall define major deficiencies and suggest means for improvement.
- The student is unlikely to pass a second Comprehensive Exam, and should therefore be encouraged to complete the requirements for a Plan I or II Master's degree, within a period of time determined by the committee, preferably not to exceed 9 months. The Chair or the Advisor should also consult with the GPA to determine if the student's transcript, as it stands, can meet requirements for the Plan I or Plan II Master's degree. Some changes may need to be made, and the Candidacy Application may also need to be revised or modified to meet the MS degree requirements and then provided to the Graduate School.

Annual Advisory Committee meeting

Beginning of semester or 2-3 months before exam
Beginning of Semester or 2-3 months before Grad School Cand. App deadline (Oct 1, Feb 1)
$4-5$ weeks before exam date
at least 4 weeks before the exam

3 weeks before exam

2 weeks before exam
1-2 weeks before exam

## 4-5 days before exam

within 1 week after exam

During the Advisory committee that predates the Comprehensive exam, the Chair of the Committee should clarify with the Committee and the student the format of the written component and the above guidelines for the scope and structure of the questioning during the exam. *This meeting may happen before the semester of the exam.
Student polls committee to arrange an exam date
Student meets with GPA. If student has unique course, degree, advisor, or personal situations, then specific forms may need to be submitted to Department, Grad School, or Registrar before the Candidacy Application and Comprehensive Exam Form can be completed.

- $\quad$ CVs needed from non-CU

Committee members to be submitted to Grad School for Graduate Faculty Appointments.

- $\quad$ Student shares draft of the Proposal with Advisor for general feedback
- Student completes Comprehensive Exam Form, Candidacy Application submitted to GPA
- $\quad$ Student sends proposal to Committee
- $\quad$ Chair of Committee sends email to student and Committee reiterating the scope and structure of the exam, as agreed upon previously during the annual Advisory Committee meeting. The email should include details of a stable online mechanism if needed.
- Chair of Committee confers with GPA to ensure paperwork is in order and obtain any necessary student records or forms needed for the exam
- All Committee members mark and sign Comprehensive Exam form


## PhD Final Defense Guidelines

Purpose: The PhD defense is a type of examination that includes an oral presentation by the student and a discussion of the motivation, methods, outcomes and implications of the research conducted for the dissertation. It is when the student shares the results of their study with the examination (Advisory) committee and the academic community (the first portion of all defenses are open to the general public). To pass the examination, the student must demonstrate that the work is of sufficient quality to receive a PhD degree and be able to speak to it and defend it in an open forum.

Timing: PhD students should normally aim to defend by the end of their fifth year. For students who hold a master's degree in geological sciences or a closely related field, the defense may happen sooner. If extenuating circumstances cause a delay beyond 5.5 years (end of Fall semester of 6th year), a one-semester extension may be approved by agreement of the student's advisory committee and noted by the Associate Chair of Graduate Program. A copy of this extension agreement will then be placed in the student's file by the Graduate Program Administrator (GPA).

Required paperwork and scheduling: The graduate student bears the responsibility for communicating with their Advisor, the GPA, and their Committee Chair that they will soon be ready for the defense and for initiating the logistical arrangements. The student must meet with the GPA a minimum of two months prior to their defense, and preferably within the first 4 weeks of the semester in which they plan to graduate, to prepare the necessary paperwork in advance of strict university deadlines. If the student has difficulty getting Advisor(s) or Committee members to respond after several attempts, the order in which they should seek help is Advisor -> Chair of Committee -> GPA -> Associate Chair of Graduate Program -> Department Chair.

Graduate School forms found here: https://www.colorado.edu/graduateschool/academics/forms-current-students. The defense date and a three-hour window should be arranged well in advance, preferably at least two months in advance. The student should also send the Defense announcement information to the GPA 8-10 days ahead of the Defense. This includes the formal names of the committee chair and faculty advisor(s), along with the date, time, and location (inperson, hybrid, or remote) for the defense, the dissertation title and an abstract not to exceed 300 words in length. See the Guidelines for Graduate Student Committees for more information on these general procedures and see an example recommended timeline at the end of this section.

Written dissertation: The student must write a dissertation based on original research that demonstrates academic maturity and critical judgment, as well as familiarity with tools and methods of research, and must present the findings in a manner deemed by the final examining committee to be a significant contribution to knowledge. Most PhD dissertations in the department consist of three chapters that are each at the level of a publishable research paper, bookended by an introductory chapter and a concluding chapter (thus, often five chapters in total). There is no requirement that any of the chapters be published by the time of the defense, but one or more often are. Therefore, it is standard practice for the student to share drafts of the dissertation chapters with their Advisor(s) for feedback, editing, and approval in the weeks,
months and even years prior to the complete dissertation being made available to the committee for the purpose of the defense. If chapter(s) are already published, then the Advisor and coauthors may have played a greater role in the editing process than if the chapter(s) are not yet published. Common practice is for published chapters to be placed unchanged into their respective location in the dissertation with the exception of format changes required by the Graduate School. The dissertation may include more than three paper-quality chapters, but not fewer.

The dissertation must conform to Graduate School specifications available on the Graduate School website, and should be submitted to the committee at least two weeks prior to the defense unless an alternative timeline is agreed upon by the committee and student. Following the defense and by the posted deadline, the student must electronically submit the final (revised) copy of the dissertation to the Graduate School, with the dissertation submitted and approved at http://www.etdadmin.com/colorado. A student whose dissertation is received after the deadline must apply for graduation during the following academic term.
https://www.colorado.edu/graduateschool/academic-resources/thesis-dissertation-submission
Oral defense: The first portion of the defense is open to the public. After being introduced by their advisor, the student should deliver an approximately 40-50 minute presentation that summarizes the dissertation. Audience members should not interrupt the presentation. Following the presentation, the student will take questions from the public audience, but committee members should hold their questions until later. After 10 or 15 minutes of $\mathrm{Q} \& A$, the public audience will be dismissed, and committee members will take turns asking questions about the dissertation. Committee members are allowed to ask questions about the written dissertation, the presentation, or any knowledge that the committee member feels is important for contextualizing the completed research. Each committee member will be allotted about 15 minutes during the first round of questioning, followed by a period of open questioning. When the committee is done asking questions (and no later than 2:30 after the start of the exam), the student will leave the room while the committee deliberates for 15 minutes. The student will then be invited back into the room to receive the result of the exam for the remaining 15 minutes of the exam.

Advisor responsibilities: It is standard practice for the Advisor(s) to provide feedback and editing on dissertation chapters. Since the chapters are also commonly published in external peer-reviewed journals with additional collaborators, similar feedback and editing may come from additional co-authors. During the oral exam, the advisor may choose to ask fewer questions than other committee members.

Chair responsibilities: The committee Chair will communicate with the GPA 4-5 days before the defense to ensure that paperwork is in order. If the student wishes for people to attend remotely, or if any committee members must attend remotely, the Chair will prepare a stable online mechanism for online participation. The chair will set the order of the first round of questioning, and keep time (recommended 15 minutes per member). Following the questioning and during deliberations, the Chair should facilitate a balanced and comprehensive discussion among the Committee members about the strengths and weaknesses of the student's performance and the state of the dissertation. The Chair will ask all committee members for their vote of satisfactory or unsatisfactory, and note their responses. The Chair will then immediately convey
the results of the defense to the student verbally, including a brief synopsis of the committee's closed discussion. The Chair will help facilitate the Exam form via DocuSign signatures if necessary.

Outcomes of defense: There are two possible outcomes of the Dissertation defense, Satisfactory or Unsatisfactory, decided by unanimity or by more than one dissenting vote.

Satisfactory PhD defense: The student passes the defense to the satisfaction of all or all but one committee member. Commonly, minor edits to the written dissertation may be requested by committee members before they agree to sign off on the dissertation. These revisions are made as soon as possible so that the final dissertation can be submitted to the Graduate School by the posted Graduation deadline.

Unsatisfactory PhD defense: If there is more than one "unsatisfactory" vote for the dissertation defense, the Chair should guide a discussion by the committee to recommend one of the following options, which should then be provided to the student, GPA, and Associate Chair for Graduate Program:

- The student should be allowed to re-defend the dissertation within a period of time determined by the committee, preferably not to exceed 12 months. In this case, the committee shall define major deficiencies and suggest means for improvement.
- The student is unlikely to pass a second defense within a reasonable amount of time, and should therefore be awarded either a Plan I or Plan II Master's degree, depending on the quality of work completed to date, the quality of the defense, and course credits completed to date. These options require conversion of some GEOL 8990 Dissertation credits into GEOL 6950 (MS Plan I) or GEOL 6960 (MS Plan II) credits. After the steps to obtain an MS degree are completed, the student's participation in the PhD program will be discontinued.


## A suggested timeline of events during the semester of a PhD Dissertation Defense:

Beginning of semester or 2-3 months before defense-
Beginning of Semester or 2-3 months before Grad School Cand. App deadline (Oct 1, Feb 1)

4-5 weeks before defense

Student polls committee to arrange an exam date
Student meets with GPA. If student has unique course, degree, advisor, or personal situations, then specific forms may need to be submitted to Department, Grad School, or Registrar before the Candidacy Application and Comprehensive Exam Form can be completed.

- CVs needed from non-CU

Committee


## Masters Plan I Final Thesis Defense Guidelines

Purpose: The Masters Plan I thesis defense is a type of examination that includes an oral presentation by the student and a discussion of the motivation, methods, outcomes and implications of the research conducted for the thesis. It is when the student shares the results of their study with the examination (Advisory) committee and the academic community (the first portion of all defenses are open to the general public). To pass the examination, the student must demonstrate that the work is of sufficient quality to receive a Masters degree and be able to speak to it and defend it in an open forum.

Timing: Masters students should normally aim to defend by the end of their second year. If extenuating circumstances cause a delay beyond 2.5 years (end of Fall semester of 3rd year), a one-semester extension may be approved by agreement of the student's Advisory committee and noted by the Associate Chair of Graduate Program. A copy of this extension agreement will then be placed in the student's file by the GPA.

Required paperwork and scheduling: The graduate student bears the responsibility for communicating with their Advisor, the GPA, and their Committee Chair that they will soon be ready for the defense and for initiating the logistical arrangements. The student must meet with the GPA a minimum of two months prior to their defense, and preferably within the first 4 weeks of the semester in which they plan to graduate, to prepare the necessary paperwork in advance of strict university deadlines. If the student has difficulty getting Advisor(s) or Committee members to respond after several attempts, the order in which they should seek help is Advisor -> Chair of Committee -> GPA -> Associate Chair of Graduate Program -> Department Chair.

Graduate School forms found here: https://www.colorado.edu/graduateschool/academics/forms-current-students. The defense date and a three-hour window should be arranged well in advance, preferably at least two months in advance. The student should also complete a leaflet with the names of the committee members, along with the date, time, and location for the defense, biographical information, the thesis title and an abstract not to exceed 350 words in length. See the Guidelines for Graduate Student Committees for more information on these general procedures and see an example recommended timeline at the end of this document.

Written thesis: The student must write a thesis based on original research that demonstrates academic maturity and critical judgment, as well as familiarity with tools and methods of research, and must present the findings in a manner deemed by the final examining committee to be a significant contribution to knowledge. Most Masters theses in the department consist of a structured composition describing a project at the level of a publishable research paper. One main research chapter is the most common practice but more than one chapter may be acceptable in some subdisciplines. There is no requirement that the work be published by the time of the defense. It is standard practice for the student to share drafts of the thesis with their Advisor(s) for feedback, editing and approval in the weeks and months prior to the complete thesis being made available to the committee for the purpose of the defense. The thesis may include more than one paper-quality chapter.

The thesis must conform to Graduate School specifications available on the Graduate School website, and should be submitted to the committee at least two weeks prior to the defense unless an alternative timeline is agreed upon by the committee and student. Following the defense and by the posted Graduation deadline, the student must electronically submit the final (revised) copy of the thesis to the Graduate School, with the thesis submitted and approved at http://www.etdadmin.com/colorado. A student whose thesis is received after the deadline must apply for graduation during the following academic term.
https://www.colorado.edu/graduateschool/academic-resources/thesis-dissertation-submission
Oral defense: The first portion of the defense is open to the public. After being introduced by their advisor, the student should deliver an approximately $25-40$-minute presentation that
summarizes the thesis. Audience members should not interrupt the presentation. Following the presentation, the student will take questions from the public audience, but committee members should hold their questions until later. After 10 or 15 minutes of $\mathrm{Q} \& A$, the public audience will be dismissed, and committee members will take turns asking questions about the thesis. Committee members are allowed to ask questions about the written thesis, the presentation, or any knowledge that the committee member feels is important for contextualizing the completed research. Each committee member will be allotted about 15 minutes during the first round of questioning, followed by a period of open questioning. When the committee is done asking questions (and no later than 2 h 30 min after the start of the defense), the student will leave the room while the committee deliberates for 15 minutes. The student will then be invited back into the room to receive the result of the exam for the remaining 15 minutes of the exam.

Advisor responsibilities: It is standard practice for the Advisor(s) to provide feedback and editing on early drafts of the thesis. Since the chapters are also commonly intended to be published in external peer-reviewed journals with additional collaborators, similar feedback and editing may come from additional co-authors. During the oral exam, the advisor may choose to ask fewer questions than other committee members.

Chair responsibilities: The committee Chair will communicate with the GPA 4-5 days before the defense to ensure that paperwork is in order. If the student wishes for people to attend remotely, or if any committee members must attend remotely, the Chair will prepare a stable online mechanism for online participation. The chair will set the order of the first round of questioning, and keep time (recommended 15 minutes per member). Following the questioning and during deliberations, the Chair should facilitate a balanced and comprehensive discussion among the Committee members about the strengths and weaknesses of the student's performance and the state of the thesis. The Chair will ask all committee members for their vote of satisfactory or unsatisfactory, and obtain signatures. The Chair will then immediately convey the results of the defense to the student, including a brief synopsis of the committee's closed discussion.

Outcomes of defense: There are two possible outcomes of the Thesis defense, Satisfactory or Unsatisfactory. An Unsatisfactory defense is decided by majority vote, or by more than one dissenting vote if there are more than 3 members on the committee.

Satisfactory Masters defense: The student passes the defense to the satisfaction of the majority of committee members. Commonly, minor edits to the written dissertation may be requested by committee members before they agree to sign off on the thesis. These revisions are made as soon as possible so that the final thesis can be submitted to the Graduate School by the posted deadline.

Unsatisfactory Masters defense: If the majority committee vote is "unsatisfactory" for the thesis defense, the Chair should guide a discussion by the committee to recommend one of the following options, which should then be provided to the student, GPA, and Associate Chair for Graduate Program:

- The student should be allowed to re-defend the thesis within a period of time determined by the committee, preferably not to exceed 12 months. In this case, the committee shall define major deficiencies and suggest means for improvement, including a summary of what steps the committee recommends for the student to successfully improve their written document and/or pass their oral examination.
- The student is unlikely to pass a second defense within a reasonable amount of time, and therefore could be awarded a Plan II Master's degree, depending on the quality of work completed to date, the quality of the defense, and course credits completed to date. This option requires conversion of GEOL 6950 (MS Plan I) credits into GEOL 6960 (MS Plan II) credits. See GEOL guidelines for Plan II Masters Degree.


## A suggested timeline of events during the semester of a Masters Plan I Thesis Defense:

Beginning of semester or 2-3 months before defense-
Beginning of Semester or 2-3 months before Grad School Cand. App deadline (Oct 1, Feb 1)

4 weeks before defense

3 weeks before defense

10 days before defense
1-2 weeks before defense

8-10 days before defense
4-5 days before defense

Student polls committee to arrange an exam date
Student meets with GPA. If student has unique course, degree, advisor, or personal situations, then specific forms may need to be submitted to Department, Grad School, or Registrar before the Candidacy Application and Final Exam Form can be completed. Complete Masters Thesis Plan form if Plan I (thesis) final defense.

- CVs needed from Committee

Members to be submitted to Grad School for Graduate Faculty Appointments.

- Student completes Examination Form, Candidacy Application submitted to GPA
- $\quad$ Student sends thesis to Committee
- $\quad$ Chair of Committee sends email to student and Committee describing the structure of the defense, including the oral presentation and subsequent questioning. The email should include details of a stable online mechanism if needed.
- $\quad$ Student sends defense announcement information to GPA
- Chair of Committee confers with
at time of defense
within 1 week after defense
within 2 weeks after defense
by posted deadline after defense

GPA to ensure paperwork is in order and obtain any necessary student records or forms needed for the defense

- Committee members sign defense form with results
- Chair and Advisor complete Workflow Process Exam form, and all committee member signatures on necessary paperwork completed - $\quad$ Student submits revised thesis to committee for final approval
- $\quad$ Student submits final thesis to Graduate School. Chair and Advisor(s) sign electronic Thesis Approval Form, acknowledging approval of the thesis and completion of the degree.


## Appendix G: Junior Faculty Guide for Geological Sciences

Guidebook published and made available to junior faculty (v. 1.005, 8/13/2019)

## PREAMBLE

This document contains a collection of information and advice for junior faculty starting in Geological Sciences at CU Boulder. It includes summaries of key Departmental processes plus helpful guidance that should aid new faculty as they transit and adjust to our Department's and University's culture. It does not supersede any of the official documents for junior faculty provided by the College or University.

The document was initially assembled in 2019 based on input from then junior faculty and their faculty mentors. Junior faculty were asked; what do you wish you had learned when you first arrived? Mentors were asked; What do you think all new faculty should know? What do you want to communicate but are not sure is getting through to junior faculty? What misconceptions/ misunderstandings do you often observe?

This is intended to be a living document that will be revised over time. To that end, there are unfinished entries in red font. We will keep working on those, and new faculty who see a topic inadequately covered should ask the Chair how to make their new contribution to this guide.

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## TENURE

## General

1. The Department, College, and University put a lot of effort into making a new hire and you were hired because the Department thought you were the best candidate, and we are confident that you will be successful. We then invested resources of all types to help you get started and develop your potential. Your success is our success!
2. As a result, NOBODY in the Department wants you to fail. There's every reason to believe that you will succeed.
3. The evidence that this strategy works is strong - in the six-year period spanning 20112017, CU tenured $94 \%$ of all individuals who went up for tenure, and GEOL's record was $100 \%$.
4. So DON'T PANIC. You are here for a reason and the Department wants you to succeed. If you stay focused, build the program you want, and do the research you want to do; you WILL get tenure.
5. Maximize the resources, information and people around you to make this happen. Be open, communicative, friendly and collaborative. Make people want you as a colleague.
6. To build your program and balance all the "things to do now", you will need to figure out what type of time management process works best for you. That will allow you to work hard and smart. There will always be more to do than is possible to do. Much of the game is about making smart decisions on what, when and how to do things.

## Advice and Mentoring

1. This is a very supportive and collegial department, but as everywhere in science, everyone is very busy with their own work, teaching and research. If you want advice, assistance or support, ask for it.
2. Some junior faculty want lots of advice. Others don't. Most senior faculty will not foist advice and views on you unless asked to do so. Not because they don't want to help, but because this is not always welcome.
3. Ultimately, your best mentors may not be those assigned to you. You may find that knocking on doors and asking questions will reveal who knows what they were talking about and are willing to take the time to help.
4. You will get lots of advice from colleagues (and from this document). Be patient with those who supply it and consider it seriously but also keep in mind that it may not always apply to your individual situation. As the saying goes, "advice is a form of nostalgia that's fishing the past from the disposal, painting over the ugly parts and recycling it for more than it's worth".
5. Whether communicating with assigned mentors or organically developed ones (or both), let them know how you would like them to help you. It's important for you to establish what you would like out of the relationship.
6. Meet with your senior faculty mentors (whether assigned or developed organically) regularly (the initiative is your job) to discuss yearly/semester goals and long-term strategies towards tenure. Try to focus on actionable items and overall strategy.
7. A weekly coffee/tea or lunch with a senior mentor, if just to discuss the weather, what to do in Denver/Boulder when family comes to visit, great spring ski deals, or life in general, is a great way to build a relationship.
8. Trust is good, a paper trail is better. ALWAYS get promises/commitments from administrators (associate chairs, institute directors and up) confirmed by email or in writing. Follow-up verbal agreements with a respectful email summary and request confirmation.

## Evaluations - Tenure vs Comprehensive Review vs. Annual Merit Evaluations

6. At the end of the day, tenure at CU-Boulder requires excellence in research and/or teaching, with nearly all STEM faculty demonstrating excellence in research for tenure. Thus building a strong research program is the primary path to achieve tenure.
7. During your tenure evaluation, the strength of your research program will be assessed by multiple external measures -- grants, publications, impact factors, and especially the opinion of external letter writers (quality and diversity of your work).
8. As you initiate your program, develop a vision for what you want to do and accomplish. The department expectation is an average of 2 papers/year, but try to envision the subset of 3-4 papers that you want completed by the $6^{\text {th }}$ year to include in your tenure dossier for evaluation by senior colleagues outside of CU. These will be your leading accomplishments - what do you want them to demonstrate about the scope and quality of your research?
9. See the section on TEACHING below for information about the evaluation of teaching at the time of the tenure evaluation.
10. Comprehensive review is required after the first 3 years ( 6 semesters) of your appointment and it occurs in the fall of the $4^{\text {th }}$ year. It involves full consideration of all credentials (research, teaching and service). The question to be considered by the Department is whether the candidate is making satisfactory progress toward tenure.
11. The biggest difference with respect to the tenure review is that there is no external evaluation of the research accomplishments. All assessment is done by the Department's evaluation committee.
12. In general, satisfactory progress towards tenure means evidence that a teaching and research program has been initiated and that there are initial accomplishments (some grants received, papers published, some service done, some grad students have been recruited and are progressing toward their degrees, etc.).
13. The Comprehensive Review and Tenure portfolios are reviewed at higher levels, after the Department assessment is complete. The next stage, after the Department review and vote, is the College of Arts and Sciences Personnel Committee, and there are several stages after that. There are online resources provided by the College of Arts and Sciences on the details of that process, and there are one or more seminars given every year on the process. The Dean of the College offers one every spring; the Department has made it a practice to invite a member of the Committee to deliver a local seminar annually. These are an important opportunity to learn about the process and ask questions. Find time to attend one or more of these seminars.
14. Annual merit evaluation is different than the tenure and comprehensive evaluations. The annual evaluation fulfills a Regent mandate for annual assessments, and in the Department they are used for determining salary raises. These evaluations are the university's way of making sure that you are doing your job. It is an accounting of what was done over the last year.
15. The focus is on measurable metrics like classes taught, students supervised, committee served on, proposals written, grants held, papers published, service accomplished.
16. There is no systematic evaluation of the quality of the work, its impact, or longterm trends and developments.
17. Within the department, the annual merit evaluations are done by Excom and are based on the information you supply on your FRPA (Faculty Report of Professional Activity - an online form available through myCUinfo that you will fill out in January).
18. Excom scores your accomplishments in teaching, research and service using a rubric (agreed upon by faculty vote - ask the Chair for a copy), and produces summation scores based on your workload (40:40:20 for most, but not all, faculty).
1.Higher scores get slightly larger raises (as long as there is a merit raise pool available).
2.The summed score is also used to place your annual effort into one of 4 categories: does not meet expectations, meets expectations, exceeds expectations, greatly exceeds expectations.
19. In the first few years, the Department is cognizant that starting a program of teaching and research can take time to yield results. A rating of "Meets expectations" at the start of an Assistant Professor's CU career is the norm. Don't panic.
20. All junior faculty will be invited by the Chair to review their annual merit evaluation and discuss any recommendations from EXCOM (the review committee) for going forward.
21. If you don't receive an invitation from the Chair to chat about your evaluation, ask for an appointment.
22. If you are comfortable doing so, asking one of your assigned faculty mentors to accompany you can be helpful. They will be better informed as to your accomplishments and needs and can be an advocate for you during the meeting.
23. Don't let the annual evaluations derail you, they are different than the tenure evaluation, they do not go into your tenure portfolio, and are not used in the tenure decisions.
24. But annual evaluation can provide a snapshot that can help you assess your progress and help you find balance in your efforts.
25. If your annual merit evaluation indicates that you are exceeding expectations on service or teaching but not in research, you may need to reprioritize your activities. Talk with your mentors and the Chair, then reprioritize accordingly.

## CITIZENSHIP

1. Don't be afraid to speak out and make contributions in faculty meetings or committee meetings of any sort. Your opinions and fresh perspectives are valued by all. Further, this is not a Department in which a few senior individuals control your fate. You should not fear disagreements with them over any issue.
2. Be kind to front office personnel (it's not their fault we are under-staffed), but if needed be prepared to do things yourself to get them done.
3. Don't worry about occasionally missing a faculty meeting for something more important that serves your research or teaching agenda (such as attending RIO workshops on funding resources, broader impacts, internal competitions; attending a teaching workshop, etc.). These types of events often take place $12-2 \mathrm{pm}$ and sometimes conflict with faculty meeting.

## RESEARCH

## Expectations

1. The Department has a document detailing annual expectations. Ask the Chair for it. With respect to research, meets expectations means 2 publications per year in a peer-reviewed journal, at least one active grant as a PI or Co-PI or a new grant proposal, and at least one presentation per year by you or a current student.
2. As noted above, the tenure decision focuses less on quantity and more on quality, with the faculty having to decide if the body of work - the publications and grants since joining CU represent excellence.

## Dedicate Time

1. There will be many demands and calls on your time, and it is easy to let the day be filled with answering emails, meeting with students, preparing for tomorrow's lecture, checking in with your TA, attending a meeting about this or that, stopping into your lab to make sure something is fixed or a machine is running fine, getting a review done, and so on. At the end of the day, the week, the month that can mean no dedicated time for research.
2. So, reserve time to work on your data, read needed papers, and write. Don't let anything interfere with this. For some, this is every day; for others, it works better to find a single day or larger window of time each week to dedicate to these tasks. Different strategies work for different individuals. The key is to find something that works for you and to actively carve out the time.
3. This is particularly true when it comes time to write grants and papers. When it comes time to write --- dedicate the time.

## Setting up your lab

1. This section coming soon once it has contributors. Intent is to have advice on good things to do, things to avoid, and efficient ways to proceed.

## Adding Students and Postdocs

1. The new graduate student admission process is detailed in the OTHER THINGS TO $K N O W$ section of this document. Some relevant points:
2. Any student support packages included in your start-up funds is controlled by you. Any GRA money associated with grants is controlled by you. You use these resources when and how you deem appropriate (but within the bounds of university, state and federal regulations).
3. Your interest group will also have assistantship and fellowship packages for new students and as a group will decide how to allocate those funds. In general, the groups will prefer you not ask for a student to be considered for the group funds before you have first used your start-up support.
4. Your time is your most valuable commodity. Don't take on a student unless you are confident they will be good for you, your lab and your research agenda. A bad student is worse than no student (even if they are fully funded). However, even experienced faculty take on students who prove difficult later. Be proactive if you do wind up with student issues - ask your mentor and the Department Chair for advice and support - and earlier is better than later.
5. Before you have graduate students arrive, consider bringing some undergrad students onto your team - as lab workers and/or to do undergraduate appropriate projects related to your research (e.g., honors theses). This is a great way to generate some new pilot data for a grant or get an aspect of your larger ongoing research accomplished.
6. Also counts as positive points under teaching in the annual merit evaluations.
7. And it gives you a bit of experience in working with students.
8. However, do not overcommit here - most undergraduate students do not produce a peer-reviewed paper from their research and, if their results are publishable, you will likely wind up putting in the bulk of the effort.
9. After you have graduate students, working with undergrads has all the positives noted above, but you may find that you have to find the right balance between time for grad students and time for the undergrads. Don't overcommit early in your pre-tenure time.
10. Adding post-docs is a bit more involved than recruiting graduate students - postdocs are like a new staff hire. A job description is needed, then how the process proceeds depends
on the source of the funds (your grant vs. the candidate's own fellowship). The Department Administrator (DA) is the person you work with and you need to engage with them at least 3 months before you actually want your postdoc to be on the payroll. After that first engagement with the DA, be sure to monitor the hiring progress and various deadlines.

## Grant Proposals

1. Make use of RIO (Research \& Innovation Office), they exist to help YOU succeed. Get to know them through workshops (e.g., PI academy) and make use of their 1-on-1 advising, e.g. get an introduction to SPIN, Dimensions and Philanthropy News Digest from RIO's Research Development Funding Coordinator (Ligia Silverman in 2019).
2. RIO can also help you:
3. Get NSF and other funding agencies RFPs circulated to your inbox.
4. Discover the universe of possible funders outside of NSF.
5. Develop proposal writing skills.
6. RIO is also where you can get help \& advice on developing the broader impacts section of the NSF proposal (which is now much more important than it used to be). In the past, RIO provided information sessions on developing the broader impacts section of an NSF proposal - ask them if they would be willing to do so again, and if they have other available resources.
7. In addition, a number of the senior faculty have already developed their own expanded sections - in particular, CIRES has helped a number of them with their NSF proposals. Ask your various mentors if they would be willing to share an example or two with you.
8. Once you've got an idea for a proposal and a potential target agency, it may be useful to contact the appropriate program officer to briefly share your idea and intent in order to make sure you have identified an appropriate target, you are aware of any specifics that are particularly important for that solicitation, etc.
9. If it becomes clear that you will be targeting a specific program with multiple grants over time, contact the program officers at the relevant funding agencies and programs and offer to serve on review panels. They always look for people and will be grateful for your offer. This is a good way to get to know them and their system.
10. New proposals are submitted to a funding agency through OCG (Office of Contracts and Grants (https://www.colorado.edu/ocg/about-us). If funded, OCG handles the paperwork to set up the grant and flow of dollars, then SPA (Sponsored Projects Accounting) does the financial tracking. Every unit has specific proposal analysts, grant officer, contract officer, contract administrators, report and close-out officers, etc. to assist with proposal preparation, processing, and submission, and eventual administration
of a grant. You find who our contacts are at:
https://www.colorado.edu/ocg/directory/arts-and-sciences
11. OCG also has specific forms related to starting and finishing a proposal. They are at https://www.colorado.edu/ocg/forms
12. OCG has a 5 -business day rule, meaning they will insure a proposal is submitted by the deadline IF they are given the final proposal 5 days in advance. Otherwise, no guarantee. But be a good citizen - contact our analyst well in advance and work with them
13. OCG has a specific budget page that is completed - they revise to account for annual increases and overhead. You may have to cycle through on the budget with the analyst a few times to get all the numbers to work out. So the budget work can and should start long before the written proposal is finalized by you.

## Managing grants and expenditures

4. Request a clear overview of your finances and ALL accounts (called speed types) tied to your start-up funds (see the Finances section at the end of this document for instructions on how to do this yourself). Ideally all your initial finances are in speed types that belong to you (and only you). If some are in shared accounts, it will be especially important to keep track of expenses since they can easily be incorrectly assigned.
5. If you're in an institute, (kindly) request at least quarterly updates on all your finances from your financial administrator including detailed numbers, overview summary, and visual representations. If not (or if you prefer to follow your finances directly), it is advisable to familiarize yourself with the CU-Data system and its financial reports. A guide to how to get started is in the Finances section at the end of this document.
6. Be prepared to be proactive and negotiate a system that works for you and the staff. Don't just assume that finances and hiring will be handled correctly, it is your responsibility to keep on top of them, sometimes things just get charged incorrectly. Ask questions if you don't understand the process - it is far easier to do things right in the first place than fix them later, particularly when it comes to financial rules and accounts.

- The department's Research Administrator (GeoDRA@colorado.edu) is the person who will assist you with your grants, from proposals through post award administration.


## TEACHING

## Expectations

1. The current annual expectation is that faculty will teach on average 7.5 credits per year with annual merit evaluations requiring you to report two years of classes. This allows flexibility as to how you achieve the annual requirement. For example, 5 three-credit classes over 2 years; 4 three-credit classes plus two team-taught three-credit classes; some combination of one- or two-credit seminar classes plus full three-credit courses that total 15 credits, etc.
2. Field courses, which are two credits, are counted as if they were three credits
3. Some undergrad courses are four-credits because they have a lab and 3 hours of lecture per week. But a TA does the labs (teaching and grading) so EXCOM (the personal committee that does annual evaluations) typically counts that as just 3 credits to the faculty member unless otherwise negotiated in advance with the chair.
4. Not all faculty teach the expected load. Reduced loads are given to Center directors and for some types of university-level service. Grants can be used to buy out courses; sabbaticals mean no teaching (if a full year) or reduced teaching (if just a half-year sabbatical).
5. Your research semester excuses you from teaching one semester. Use it wisely. Some choose to use it their first semester; others wait to use it (perhaps to set up their lab once new equipment is bought; to write papers or grants in year two or three; etc.).
6. Once you have accepted the job, decide if you want to use that research semester right away. Some Chairs have assumed that to be the case and thus new faculty never got a first semester class put in the schedule for them, thus had to take the research semester whether that was their plan or not.
7. Your offer letter probably states the research semester accounts for 3 credits thus a one course break. That does not necessarily mean one has to take on a heavy load the term before or after to achieve 4.5 for the year. Remember, the accounting in the annual merit evaluations is done with a running 2-year window. You have the 3 terms around your research semester to do 4 courses (or more accurately, 12 credits).
8. Bottom line - be sure to get an explicit agreement with the Chair as to when the leave will occur and how courses will be distributed before and afterwards so you can plan accordingly.
9. Unless negotiated otherwise, all faculty are expected to teach an introductory course or other "large" service course (i.e., a course that fulfills the general education requirement for all A\&S students) once every 4 semesters.
10. Junior faculty are not expected to propose and develop new courses to fulfill this requirement. You should look at the courses already created, talk with mentors, colleagues, and the Chair and choose which course to teach. The Chair can then help you fit into the rotation for that course. Then stick with just that course through your entire Assistant Professorship.
11. And once you have chosen which service course you will teach, ask those who already teach the course for their materials. Minimize the time put into development - adopt and adapt what others can provide.
12. The remainder of your course load should be a balance of upper division undergraduate and graduate courses. Talk to the Chair, other faculty and the undergraduate mentors EARLY (definitely in the first year) and identify where there are teaching needs and where you can make contributions.
13. Some faculty teach a specific major-track course every year (de facto owning it) and those courses don't require other faculty on a rotation basis. But there are other courses - especially those at the 2000 level (Planet Earth, Earth Materials, Introduction to Field) that need different faculty in the pool to teach them on some type of rotation. It you want to join such a rotation, talk to the Chair and ask to do so.
14. As you start thinking about what to teach at the undergrad major level, look at the major requirements (https://www.colorado.edu/geologicalsciences/academic) to see how your course would fit in. With undergrads, you are trying to introduce them to different aspects of the Geosciences, as well as develop them as scientists, critical thinkers, and problem solvers.
15. Undergraduate courses require 14 students to be taught (loosely enforced as a course is building an audience), so you need to make sure the course has appeal to more than you. Upper division undergrad courses are not intended to make them specialists in a narrow subfield.
16. Do not try to set up a complete and exhaustive set of classes too quickly. Doing so will mean you are constantly developing new classes and that is time-consuming. You are here for the long haul and can add more courses over time. Better to identify 2-3 other courses that make needed contributions at the undergrad and/or graduate levels and develop them over the pre-tenure period. Get into a rotation so that you build demand among students and you are fine tuning and growing your teaching skills in your "core" courses. This strategy will mean your growth as a teacher can be clearly documented in your tenure documents.
17. To ensure required credit hours add up over time, some of your predecessors also have set up an annual 1-credit graduate seminar in their research area that their students can take every year.
18. This requires relatively little effort to teach and can benefit your research agenda. In addition, it helps not teach two new 3-credit classes in any semester before tenure.
19. One caution though is that there needs to be a minimum of 4 students in the seminar, so the topic should be broad enough to appeal to the students of other faculty.
20. Also under teaching is the supervision of students (expectation is at least one active grad student), sitting on the graduate committees of students not your own (expectation is 2 at a minimum and 4 at a minimum if you have no grad students of your own), and engaging with at least one undergrad in a creative and/or research experience. The latter can involve supervision of an Honors thesis, a UROP project, an independent study project (for credit), or mentoring a student do some type of independent project of their own.

## Development of Teaching Styles and Approaches

1. Although this document rightly notes the importance of developing your research program and demonstrating excellence in that area, the 6 pre-tenure years are also a time
to start your journey to being an effective teacher. Few of us have training in how to teach, but there are resources to help you get started, and the campus leadership is increasingly emphasizing training given that tuition is such a large portion ( $\sim 67 \%$ ) of CU's budget. Better to start right, then have to revamp and revise too often.
2. Development of useful and effective pedagogies mean learning to be "the guide on the side" rather than the "sage on the stage". Typically, this includes the development of learning goals, backward design schemes for developing a course, implementation of active learning strategies, teaching with technology, developing accurate assessments, experiential learning, research-based learning.
3. Look for on-campus professional development courses through FTEP, ASSETT, and the new Center for Teaching and Learning (CTL). These are often just a few hours long, but they will give you useful tools and tips towards developing your classes.
4. There are short courses related to teaching pedagogy at GSA meetings.
5. All types of professional development workshops also demonstrate a willingness to work on teaching, which tenure evaluation committees can point out and praise. They also provide "beans" on the annual merit evaluations.
6. Talk to your faculty mentors, and the other newer faculty to find out what choices could be most effective and not result in large time sinks.

## Teaching Portfolio

1. Your tenure package will include your statement of teaching and multiple measures of teaching. The Office of the vice-Chancellor for Faculty Affairs notes that: "The gathering of these multiple measures is a joint responsibility of the candidate and the unit; the candidate should make sure that s/he has in place all the multiple measures s/he finds appropriate, and the unit should make sure that the measures it deems necessary for the evaluation of teaching on a regular basis are included."
2. FCQ scores are typically one measure used by the Department. The FCQ is an evaluation of the instructor and course completed on-line at the end of every course by the students. The Department's FCQ coordinator will send you info every term.
3. A second common measure is peer observation - a letter from a faculty member who observed 1 or more class sessions. This may or may not include that observer also asking for time to do some type of group interview of students (e.g., collecting responses to questions like: What is Dr. xxxxx's strengths or weakness in this class? Tell me about a particularly effective or ineffective learning experience in this class?)
1.You need to take responsibility for the peer observations. The Department does not have a systematic structure for making sure they happen. Chairs are busy with many things; they are likely to only worry about observations the term before the tenure evaluation occurs)
1.So take the initiative and set up a long-term plan. Ask colleagues (Associate, Full) and your faculty mentors about attending your classes annually and writing a peer teaching evaluation. Observers who have visited repeatedly can then write about improvement over time and that is
more powerful than a letter describing one visit two days before the tenure package was finalized.
4. A third common measure is letters from students. The department will solicit those when your file is being assembled, and that usually generates responses from your own graduate students. But letters from undergrads are hard to solicit. For those, the best plan is for you to be proactive and ask that the letters be solicited right after a course is over (best to do this after teaching a course for the $2^{\text {nd }}$ time and you've worked out any first-time issues).
5. Another measure is a teaching portfolio. This is a compendium of materials from one or more of your courses that illustrate how you teach. It is widely used across campus, but has been erratically considered in the Department. From it, the department and the tenure committees above can make judgements as to the quality of teaching. It might include examples of learning goals, classroom activities, assignments, rubrics, labs, exercises, homework, etc. It is best to start this portfolio with the first course taught, and make additions to it over the years. Then the best of the lot is included in the tenure portfolio. There are short workshops offered on campus on building a teaching portfolio - take it early.

## Teaching Logistics

1. The schedule of courses is built more than a year out (it starts with reservations of large classrooms $\sim 18$ months out), and the schedule if finalized about 8 months out. Students register in April for the fall term and in November for the spring term. Thus you have to develop a running, multi-year teaching plan. Except when you first arrive, courses should not be added "late" - that requires a lot of extra work by front office staff and most students will have already set their schedules.
2. New classes that meet general education requirements for $A \& S$ students need to be approved by a college committee. Those intended just for majors need to be passed through the Department's curriculum committee. And the new courses need to be submitted for approval 1 year in advance in order to actually make it into the course schedule a year later with their unique course number. So lots to do well in advance in order to teach a new class. Creating a new class (and looking up which classes exist) is done at https://catdev.colorado.edu/courseadmin portal.
3. Because of the long time to create and establish new classes, new faculty often teach a class as a "Special Topics" course the first (and sometimes $2{ }^{\text {nd }}$ time). These are registered as 4700/5700 level classes.

These can be added late in the scheduling process, but will require lots of extra advertising to students (flyers in the building; email from the Department to the undergrad and/or grad student lists). You have to take the initiative to insure those steps are taken.
Special topic numbers can also be used when deadlines have passed to add a (graduate) class. This is not ideal but works in a pinch.

1. There is departmental money available to request class materials - this used to be "Course fees" but remains TBD what it looks like in the future (course fees are no more).
2. Projectors for classrooms without a fixed projector need to be reserved with the front office (there is a calendar for each projector). Organize your projector as soon as you know your class times, the HD projectors are best and always in high demand. This should become less of an issue as more of our classrooms get upgraded with projectors.
3. Undergraduate or graduate students can assist as hourly graders. There is an allocated number of hours/money for different courses. The largest undergraduate level courses can get up to 80 hours of grader support. You have to submit a request for a grader on a form to the Chair (the Chair has this form). The grader needs to do biweekly time sheets, either online (and you have to approve when notified one is submitted) or by paper (you can get paper time sheets from the Department Administrator).

## SERVICE

1. A well-functioning department is one in which all members participate in an effective and fair manner. We all recognize that pre-tenure is stressful and a lot of work, thus annual service expectations for pre-tenure faculty are less than the expectations for posttenure colleagues.
2. The goal for junior faculty is thus to participate, make useful contributions, optimize the effort, and don't overdo it.
3. Annual service load for junior faculty should be 1 department committee per year, plus 1 additional department/institute/college/university/professional committee, plus manuscript and grant proposal reviews.
4. In your first few years, request committees with low or time-limited workloads that ideally relate to something important to building your program. Examples: grouprepresentative on admissions committee, space committee if you have a big lab footprint.
5. If you are asked by anyone to serve on a committee - ask to think about it, you do not have to decide right away (avoid committing on the spot). Consult with your faculty mentors and have them back you up if it's a difficult NO.
6. It is wise to never agree to serve as the chair of a committee if asked (if you volunteer that's your own problem).
7. Doing peer reviews - for journals and funding agencies - is required, but if the demand is high, limit what you agree to do - make choices that will have the most benefit to you.
8. If you do serve on a more work-intense committee early in your CU career (precomprehensive review) that's relevant to your agenda (e.g. a search committee in your field), remind the department chair about the higher workload and request a reduced committee load the following year. Get your faculty mentors to back you up, they are your allies. Get any agreements in writing.
9. With an eye towards tenure, also consider (especially after comprehensive review) those service activities that are looked upon (especially at the college-level) as more meritorious in their contribution.
10. This might include faculty hiring committees or interdisciplinary efforts across campus. Beyond campus, this is service to the broader research committee that demonstrates impact (i.e., association panels or committees).
11. The latter is a way of demonstrating that your voice and opinion is valued by other researchers in your field - they demonstrate impact in the broader research field. And, it helps to raise your profile with potential external tenure reviewers, who comment on this in their letters about you.
12. Review panels at funding agencies are in the same impactful category and are viewed favorably as a service contribution, but they can be time consuming. If necessary, discuss with the Chair about revising and/or reducing some of your other service duties.
13. Early in your CU career, it is generally a good idea to curb your enthusiasm for institutional improvements. There may be a list of things that you think could (and should) be improved at the department, institute, and/or university level. You will almost certainly have some innovative and important ideas thanks to the new perspective you bring. The department values your ideas and perspectives on how to make institutional improvements. Do not hesitate to voice your opinion in faculty meetings. But volunteer cautiously for committees to study and enact change. You can continue to share your ideas verbally, but guard your time. Post tenure you'll be in a much better position to actively engaging in the processes of affecting change.

## ADDITIONAL RESOURCES

## Career

1. The national center for geosciences teachers (NAGT) runs a workshop every summer for early career GEOL faculty that comes with an NSF visit to talk to program officers https://serc.carleton.edu/NAGTWorkshops/earlycareer/. This is a good workshop to take the summer after your first year.
2. The Center for Faculty Development and Diversity is a great resource for career development, helpful programs (e.g. writing challenges), and advice. CU Boulder has an institutional subscription https://www.facultydiversity.org/

## Teaching

2. In addition to the campus workshop and development resources noted under TEACHING, check out SERC (Scientific Education Resource Center) at https://serc.carleton.edu/index.html. It is a site with engaging teaching activities and information on effective pedagogy.

## Campus

1. Office of Faculty Affairs, ihttps://www.colorado.edu/facultyaffairs/a-z is an A-Z Information guide that contain links to policy documents for most anything you can imagine, and particularly documents related to tenure \& promotion rules \& forms, parental leave, sabbaticals, etc. Literally everything from Absence from Campus Policy for Faculty to Workloads, Differentiated.
2. Employee Services (specifically for benefits): https://www.cu.edu/employee-services/benefits-wellness

## Departmental

1. Your code for the front-office printer/copier is your employee ID. If you have trouble with the printer/copier/fax, ask Dan Mitchell for help.
2. Reserving conference rooms in Benson:
https://www.colorado.edu/geologicalsciences/resources/conference-room-schedules
3. Vehicle rentals for field trips
https://www.colorado.edu/geologicalsciences/resources/transportation-reservations
4. General Departmental information, documents and links are at https://www.colorado.edu/geologicalsciences/resources/information-documents-and-links Included are forms for:
5. Independent Study Contracts (if you have a student do an IS with you)
6. Student Assistant procedure
7. Payroll action request forms (for GRA, research faculty, student assistants
8. Purchase card purchase receipt form
9. Personal and Travel expense reimbursement request form
10. Travel Authorization Forms
11. Vehicle and bus reservation forms
12. Sole source justification form
...and many more.

## Research

1. Contributions welcome if not already under the research heading above.

## OTHER USEFUL THINGS TO KNOW

## Administrative Structure and Staff

- Department Chair - the executive officer of the Department. Responsible for efficiently and judiciously administering the academic, organizational and fiscal affairs of the Department. The Chair is nominated by the faculty of the Department for a 4-year term and the appointment is made by the Dean. Some past Chairs have elected to stay for 2 additional years.
- Associate Chairs - The Chair appoints, on a year-by-year basis, two members of the faculty to serve as Associate Chairs (AC). The position is one of assistance, not succession. Historically one AC covers issues related to the Graduate Program and the
other the Undergrad Program. But they can do more - they assist the Chair in whatever ways the Chair deems appropriate.
- ExComm - the Departmental Executive Committee consists of the Chair, the two Associate Chairs, and representatives chosen by the established interest groups within the department. The committee advises on any matter brought to it by the Chair, participates in allocation of resources, and performs all annual merit evaluations.
- Department Administrator (GeoAdmin@colorado.edu) - Office Manager and Assistant to the Chair: This is the person to see for Human Resource and Payroll issues; all hiring; all student appointments (GRAs, hourly, graders); researcher appointments; payroll funding; summer appointments (faculty \& students); Faculty Affairs issues - reviews, tenure, promotion, sabbaticals, leaves; department policies and procedures; Benson 380 Conference Room reservations; parking permits (parking liaison); department operations. Also serves as department-level approver for financial transactions and finance manager.
- Graduate Program Administrator (GeoGPA@colorado.edu) - This is the person to see for anything related to our graduate studies program or graduate students; graduate admissions; Grad School liaison for rules; grad student comps and defense; add/drop for grad students; grad student appointments; and grad student events (Colloquium, Coffee Socials).
- Undergraduate Program Assistant (GeoUPA@colorado.edu) - This is the person to see for anything related to our undergraduate studies program or undergraduate students including add/drop/overrides for classes; independent studies; teaching tools access; transportation (vehicle) reservations; copier codes; FCQs; Benson room reservations; Course Scheduling liaison (enters course schedules and course catalog information in system - see faculty assigned as course scheduler for specific questions regarding room and course scheduling).
- In-Department Accounting Technician (GeoAcct@colorado.edu) - See this person for all purchases (CU Marketplace), Procurement Cards, Travel Cards, and reimbursements. Be sure to contact this person before making any purchase over $\$ 5,000$ to ensure compliance with all university rules. Also handles accounts payable, accounts receivable (deposits) and lab billings.
- Department Research Administrator (GeoDRA@colorado.edu) - See this person for all questions about research (grant) proposals and post award administration.
- Systems Administrator - See this person for all computer hardware and software support/purchasing, FCPP (faculty computer purchase program), networking support, printers, audio visual equipment support, large format printing, CCURE door (swipe) access, telecommunications issues (phone and internet access), and key liaison (note: keys are not issued to undergrad students).
- Building Proctor (GeoProctor@colorado.edu) - Problems with the Benson Earth Sciences Building should be reported to the building proctor so that corrective action can be taken or a work order submitted to facilities management (FacMan).
- Property Manager (GeoProctor@colorado.edu) - Deals with the CU inventory of property, which will include most lab equipment. Report any property or equipment issues to this person regarding the equipment inventory, equipment disposal, equipment transfer, and capital equipment property tags.


## Accounting speedtypes

- All accounting at CU is done with speedtypes - an 8-digit number that identifies each individual account. You will end up with speedtypes for many accounts (start-up, each grant, gift accounts, etc.). The first few digits identify the type of Fund, and different Fund types have different governing rules. The first digit identifies the campus (Boulder=1), the second and third digits identify the type of Fund and the remaining five digits are random. (Fund 10=General Funds; Fund 28/29=Auxiliary Funds; Fund 30/31=Sponsored Projects and Fund 34=Gift Funds).


## Most important things to know about making a purchase

1. There are basically three ways to make a purchase at CU:
2. CU Marketplace - the easiest and preferred way to purchase using punch-out catalogs with preferred vendors (contact the Office Manager for access)
3. CU Procurement Card (PCard) - a Visa card that is reconciled monthly with a report in Concur (contact the Accounting Tech for application)
4. Reimbursement for a personal purchase - purchases made with personal card or cash and reimbursed through Concur (see Accounting Tech)
5. Faculty may apply for a Procurement Card (P-card), but to get one you first have to take a Skillsoft course (myCUinfo > Skillsoft $>$ CUBoulder $>$ Procurement Training) that covers the operational aspects of purchases. It is one of many Skillsoft courses you should have been told about during the campus' new faculty orientation.
6. P-cards are separate from travel cards (see below). DO NOT use a P-card for travel related acquisitions or a travel card for purchases unrelated to travel. Doing so is an infraction of CU Procurement Service Center (PSC) rules and creates lots of paper work for all. Ask ahead if in doubt.
7. Initially you will probably be making most purchases using your start-up funds. The staff person to help you is the In-Department Accounting Technician (GeoAcct@colorado.edu).
8. When you start using grant funds, the person to help you is the Department Research Administrator (GeoDRA@colorado.edu)

If you have an uncertainty about how to proceed - ask GeoAcct or GeoDRA as both are available to help.
5. There are lots of rules, dos and don'ts regarding purchases. A few highlights

1. Some types of acquisitions should be done using CU Marketplace, which connects you with approved vendors. This is for routine stuff (such as lab supplies).
2. There are mandatory CU purchasing rules around: consumable office supplies, computers and furniture; see the Accounting Tech before making these purchases.
3. For all purchases made in Colorado, you should tell the vendor it is a CU card and tax exempt. The tax exempt \# is on the card; most local vendors in Boulder also have the info in their checkout registers.
4. If purchasing on a sponsored project (e.g., a grant), remember that all charges must be: allowable, allocable, reasonable and consistently treated. Contact GeoDRA with any questions or if you aren't sure.
5. Your P-card will have a limit of $\$ 5,000$ per purchase and $\$ 10,000$ per billing cycle (the latter can be raised).
6. Purchases over $\mathbf{\$ 5 K}$ require preapproval and additional paperwork; contact the Accounting Tech before making these purchases
7. Purchases over $\mathbf{\$ 1 0 , 0 0 0}$ also require bids, sign-off by the Chair, and sole-source justification if going with a single source. Unless it is equipment and the vendor is a CU catalog vendor, multiple levels of approval are then needed (minimum of 5), so it is not an instantaneous process. Contact the Accounting Tech, start well in advance of need and be patient.
8. Regardless of the size of the purchase YOU NEED RECEIPTS. Receipts have to be turned in promptly. A monthly P-card reconciliation statement is constructed (it links the purchase with the account and requires the physical receipt to be matched to the specific purchase on your card).
1.Forms for turning info in to GeoAcct are found at https://www.colorado.edu/geologicalsciences/resources/information-documents-and-links
9. GeoAcct prefers you forward receipts as you make purchases or keep an electronic file.
10. Failure to turn in receipts and reconcile transactions within 30 days can result in loss of your P-card.
11. If purchasing on a sponsored project, remember that all charges must be: allowable, allocable, reasonable and consistently treated. Contact GeoDRA with any questions or if you aren't sure.

## Making travel arrangements

- You are encouraged to get a Travel Card if you travel. Use a travel card when paying for hotels, parking at DIA, and taxis, shuttles, Ubers, trains, subways (whatever) when traveling. The travel card or the P-card can be used when paying conference registrations in advance.
- First step for traveling is to complete a travel authorization form.
- If the trip is domestic, then use the form available at https://www.colorado.edu/geologicalsciences/resources/information-documents-and-links
- When completing the form, ignore the Project Number - use the speed type number paying for the travel. Sign and return to GeoAcct.
- When the signed copy is returned to you, you can make your reservations.
- If the trip is international, then you use the travel authorization menu in CONCUR (myCUinfo > Resources > CONCUR). All international travel must be approved by the Chair through CONCUR.
- Booking flights must be done through CONCUR. You provide a speedtype for the airfare when doing so. THERE IS NO REIMBURSEMENT FOR TICKETS PURCHASED OUTSIDE OF THAT SYSTEM unless you provide "same day price comparison" and follow the official procedures for internet airfare purchases. Save yourself the hassle and use CONCUR
- You cannot pay for other CU employees - meaning no group meals or students' lodging. All CU employees should be submitting their own travel reports. If it happens in an emergency, then you need separate bills.
- Receipts - keep a copy of the itinerary and all receipts for transportation, lodging, gas purchases, or anything else charged to the travel card
- For meals, it is easier to just pay using your personal credit card or cash, keep receipts so you know what you spent, and then simply request a per diem to cover those expenses. This approach means you and GeoAcct don't have to document every coffee, snack, and food purchase (that can be a lot of receipts on a long trip). The per diem is based on location and time of year, but the expense report can be adjusted up to that level to cover the actual expense.
- Complete a Geology Travel \& Reimbursement Form found on our website to summarize your trip expenses and indicate your expectation for reimbursement.
- Tape all receipts (excluding food if going the per diem route) to pieces of paper (in some logical order - e.g., transportation, rental car gas, lodging, miscellaneous) and give them to GeoAcct (using startup funds) or GeoDRA (using grant funds) so that they can be scanned into CONCUR.
- You have 60 days to turn in travel receipts, but best not to wait to the last minute. After 60 days, reimbursements may become taxable income to you and you risk losing your travel card.

11. A sometimes confusing point is whether to use your Pcard or Travel card when away from campus/Boulder (i.e., doing field work) and making a purchase to facilitate the field research (e.g., replacing a lost rock hammer). In that case, use your P-card because it is a purchase for the project, but not for travel.

## Graduate Admissions

1. Admission has an annual cycle: initial recruitment (mainly in the fall) $\rightarrow$ application deadline (Dec 1 for international, Dec 15 for IQBio program, Dec 30 for domestic applicants) $\rightarrow$ applicant processing (till about Jan 15) $\rightarrow$ faculty evaluation of applicants (mid January and into February) $\rightarrow, \rightarrow$ campus visits $\rightarrow$ admission and support offers and final recruitment $\rightarrow$ student acceptances.
2. Faculty recruiting (interest) groups. The department typically simplifies the recruiting process by compartmentalizing some of the operations within several faculty groups. The department chair will tell you which is yours. At the beginning of the cycle, the department chair will allocate a specified amount of departmental student support (Teaching Assistantships and/or Fellowships) to be used by each group that year for
recruiting purposes. The groups then organize themselves and their process for deciding how to allocate those resources within the group. Each group operates somewhat differently in terms of how they go about making decisions, but big decisions made by each group include 1) Nominee for Chancellor's fellowship - usually only one per group, 2) Nominees for Diversity support, usually more than one allowed but number may vary from year to year, 3) how to allocate departmental support from each group for admissions offers.
3. Graduate admissions committee. A five member admissions committee is formed each year to coordinate the admissions process with the GeoGPA. This committee is made of a chair and one representative from each faculty recruiting group. The chair of the committee is usually the rep for his/her group. The primary roles of this committee are to 1) communicate information to faculty recruiting groups and ensure the recruiting process goes ahead in a timely manner, 2) select a departmental nominee for a Chancellor's Fellowship, 3) select applicants for departmental and university-wide diversity support, and 4) ensure the minimum eligibility requirements are met by admitted applicants and review any special cases (see below). New faculty are encouraged to communicate with their group's admissions committee representative or the committee chair for questions about the process.
4. The campus' Diversity Initiative runs a program that provides a $\$ 2500$ "signing bonus" for minority graduate students to help incentivize them to come to CU Boulder. This is available to ALL incoming minority graduate students. Contact Barbara E Kraus (barbara.kraus@colorado.edu) if you're admitting a minority student for more information. You can also apply to the college's program for broadening graduate student diversity for a competitive $\$ 6000$ "signing bonus" (the $\$ 2500$ diversity initiative is NOT available if your student wins the larger bonus)

## 5. Initial Recruitment

1. Students start shopping for grad schools in the late summer and into the fall. They may contact the Department (the Graduate Program Administrator (GeoGPA@colorado.edu) or you.
2. To make sure students know you are here and can learn about you, make sure you are added to the Department's web pages with links to the appropriate research areas (see our Systems Administrator in 385B, 2-6195).
3. Most students will not know you are here, nor will those advising them on which schools to consider. In their first few year, sew faculty usually find is very important to network for applicants amongst their colleagues, collaborators, past mentors and past classmates. Do so early in the fall before prospective students have already narrowed their choices.
1.Some junior faculty have found that landing a great student when starting out is not easy. When commitment time comes, the prospective student may go for a more established program. Don't despair - someday soon you'll be the established program netting all the good ones. In the
meantime, assume you will need multiple prospects in order to land one or two.
4. The department will provide $\$ 500$ per faculty member for students to visit in the spring term (see below) IF those students completed their applications, have been evaluated and high-graded by faculty. This means no departmental funds for visits in the fall. But if you have resources and want to pay for a fall recruitment visit, go for it.

## 6. Evaluation

1. Applications are all done online, as are evaluations. GeoGPA will compile a spreadsheet of all applicants. Once all the data is ready, faculty will be informed and evaluation of applicants begins.
2. The online system (SLATE) is not hard to use, once you become familiar with it, but it is complicated and convoluted. GeoGPA has prepared documents to guide you. It is an iterative process with students having to be advanced through that system (by you) in order to get admitted. Don't forget that detail.
3. Individual faculty will nominate, and the graduate admissions and diversity committees will select from those nominations individuals to put forward for Diversity and Chancellor fellowships. Beyond that, their role is primarily setting minimum criteria and ensuring interest groups are moving through the overall evaluation process.

Assume the minimum are an undergrad GPA $\geq 3.0$, sum of GRE percentiles $>150$. If you are interested in a student with scores below these minimums, you have to make the case to the Admissions committee.
4. In general, if looking to support a student using your start-up funds or grants, you are free to use whatever criteria you want, and pursue whomever you want. If hoping to use other departmental funds (TAs, fellowships), you will have to work with the other faculty in your assigned interest groups (each interest group has their own preference for how that is done).
5. Most senior faculty will advise that a high GPA and great GRE scores don't necessarily translate into a great grad student (some will say that of those metrics, the sub-score for writing is the best indicator). Letters of recommendation, especially from professors who worked with students outside of the classroom and one-on-one conversations with students are often more informative. Some Department faculty will in fact not even consider students who have not taken the initiative to contact them.
6. It is a good idea to identify multiple potential students, talk with them all and make a preference list of your $1^{\text {st }}, 2^{\text {nd }}, 3^{\text {rd }}$ choices. Then onto admit and the effort to court them.

## 7. Admission \& Support Offers, Campus Visits - the $\mathbf{2}^{\text {nd }} \mathbf{p h a s e}$ of recruitment

1. Once you have made a decision, work with GeoGPA and through the online system to generate the admission. Most faculty reach this point somewhere between mid-February and mid-March. The department sets a goal of March 15 ish for all admission decisions, but once declines come in, new admissions may follow.
2. The Department sends the official admissions letter and the official offer of support. But you can let students know in advance that you are very interested in them and are waiting for the paperwork to come through (update them but do not make specific commitments or promises).
3. Student visits - The department will provide funds (typically up to $\$ 500$ per faculty member) for students to visit in the spring (see above).
1.Most faculty use this money once they have settled on their top choices. Some then use the visit as part of the evaluation (i.e., before an admission offer is made); others wait until after an offer is sent.
4. Definitely bring in students you are pursuing for a visit. If your department and startup funds are exhausted for that purpose, talk to other faculty that might not be recruiting that year as many will let you use their departmental funds.
1.Most faculty have a current graduate student host the prospective student, which means no hotel expense and a host who will coordinate meals and other interactions with current grad students
2.A typical visit is 1.5 to 2 days and will involve the prospective student sitting in on some grad classes, visiting with current grad students, visiting with GeoGPA, visiting with other faculty, touring our labs and facilities, and visiting with you. Faculty are responsible for setting up visits of their prospective students.

## 8. Acceptances

1. If offered support, students have until April $15^{\text {th }}$ to decide whether to accept. That date is set by the AAU (American Association of Universities) and we cannot demand a response from a student before that date.
2. But you can tell them how eager you are for them to come here and work with you, but if they decide not to, you'd appreciate knowing sooner rather than later. It will allow you to move on to an alternate choice before they decide to go elsewhere. Most prospective students cooperate.
3. Students will typically contact you to let you know they are accepting; not all will contact if declining. Formal acceptance is done by them 1) clicking a button to accept their admittance through Slate and 2) paying a $\$ 200$ confirmation deposit to CU Boulder. Both actions must be completed to fully accept admission. If you have a turn down, and the support was under your control (start up, grant money), you can go on to make an offer to a $2^{\text {nd }}$, then $3^{\text {rd }}$, etc. choice. You can even keep going past the early April AAU deadline.
4. Once they accept, they will be contacted by the Department over the summer about fall orientation, key things to do before classes start (establish a domicile so they qualify for in-state tuition in year 2), fall TA assignments (if applicable), etc.
5. It's a good idea for you to keep in touch with your new incoming students, and if feasible even get them involved in your program over the summer (field work, arriving early to start in the lab, etc.). You will need to advise them which courses they should sign up for in the Fall, so best to start thinking about that in June and consulting senior faculty for their input on coursework if needed.
6. If you have questions about academic guidelines and what incoming students are told, contact GeoGPA over the summer and that person will be happy to provide
current information.

## How Institutes Work and their Relationship with the Department

The University has a number of institutes that operate as semi-autonomous research organizations. All institutes are interdisciplinary by design, with faculty from multiple departments. They vary widely in size, research interests and funding sources, but each is composed of various faculty members whose research home is in the institute and their teaching and tenure home is in a department. As a result, some share of the recovered overhead generated by their research grants is designated for their respective institute, and a smaller share is provided to the department. To complicate matters, those faculty may have been hired under a RIO faculty line, or their line may be rostered in the department. Although this does not affect their status with the department, it does mean that the percentage breakdown of recovered overhead varies not only between institutes but also between institute faculty.

Historically, the Geological Sciences department faculty includes some institute fellows from CIRES, LASP, INSTAAR and the Museum. Most of those fellows channel the bulk of their administrative work through their respective institutes, particularly their research grant needs. The exception is administrative needs associated with teaching undergraduate classes. Because the institutes do not have a teaching mission, institute faculty teach through their departmental affiliation, with the department responsible for curriculum, course scheduling, etc. As a result, faculty in an institute remain eligible for the department TA positions for their students - those dollars are a function of the number of courses and students the department teaches, and the institute faculty contribute to that teaching effort.

Each institute's basic funding source is different. CIRES, for example, is a NOAA cooperative institute, and NOAA provides its operational funding, while LASP does a lot of satellite mission support. In addition, each institute faculty member brings in research grants for their own programs, and their graduate students are paid out of those funds. The institutes generally do not provide blanket GRA funding, although there are individual exceptions, as there are in the department. CIRES, for example, awards four one-year fellowships each year through a competitive program that every graduate student in the institute can apply for.

Most institute faculty have the same 40:40:20 breakdowns for the annual evaluation of their research, teaching and service. The Museum is an exception as it also has a curation component to its mission. Generally, museum faculty are thus $40 \%$ research, $20 \%$ teaching, $20 \%$ curation, and $20 \%$ service. Institute faculty provide service to both the department and their respective institutes. The actual breakdown varies, but for many the institute service is, to some extent, an addition to their department service.

The institutes benefit the department by bringing in talented faculty with specialized research programs. In addition to institute fellows, they also have programs for visiting researchers. In turn, these faculty bring collaborations and manage research dollars and graduate students that add to the expertise, energy and profile of the department. You should feel free to find out what they do and develop collaborations and research proposals as appropriate.

## THE FINANCE SYSTEM

The CU-Data system (mycuinfo.colorado.edu -> Resources -> CU-Data, but only accessible while on CU network!) allows you to query a lot of useful financial information but it is not the most straight-forward system to use. Below is a guide on how to get started with a set of useful reports. For additional information, please consult with your finance administrator, and beware that updates to the system happen often and may make some of the following obsolete.

## General Notes:

1. The university organizes all finances in accounts called speed types (STs), they all have an 8-digit number, the first is a 1 which signifies the CU Boulder main campus, the 2nd and 3 rd capture different types of speed types and are often referred to by this number, e.g. fund-10 (unrestricted fund/startup), fund-29, fund-30 (Grant funding), fund-34 (gift fund), etc.
2. You should have access to all your speed types through the finance system but permission is not always set up correctly. If you realize you cannot get access to one of your speed types, talk to your finance administrator for help to get it corrected.
3. For all types of finance reports, you can review the numbers (dollar amounts) in the application itself (page up and down buttons are at the bottom). However, it is often easier to click the play icon in the top bar and select Run PDF or Run Excel depending which format you prefer these numbers in.
4. To start the same report over, click the play icon and select "Reset prompts and run".
5. To save the report style (not the report itself!) for later reuse, click the save icon "Save report as report view...", click on "Select my folders", give it memorable name, click OK (this report view is now available to you for quick access under the "My content" tab in the left menu bar).
6. To return to the home screen, click the home button in the top bar

## Speedtype one-liners (overview of all your speed types):

1. Team Content -> Finance -> mFin SPEEDTYPE ONE-LINER
2. Select yourself in Fiscal Role Employee Name on the right
3. Click Next at the bottom
4. In the EXTRAS box, select at minimum BUDGET, TO DATE ACTUALS and AVAILABLE BALANCE
5. Click Finish at the bottom

## Operating summary (financial year summary details on speed types):

1. Team Content $->$ Finance $->\mathrm{mF}$ in OPERATING SUMMARY
2. Select the fiscal year at the top and to get the whole year, select CURRENT $1--$ JUL, and ACCOUNTING PERIOD 12 -- JUN (multiyear not possible as far as I know)
3. Select yourself in Fiscal Role Employee Name on the right (you could select individual speed types instead)
4. Click Next at the bottom
5. Select "earliest date" for "from" and "latest date" for "to" (unless you want to look at a more specific time frame)
6. Click Finish at the bottom

## Financial Details (details on individual speed types)

1. Team Content $->$ Finance $->$ mFin FINANCIAL DETAIL
2. Enter the FROM and TO fields to select the time interval (can be across multiple years)
3. Enter Speedtype number in the Speedtype field and hit search
4. Click insert to add to the report
5. Repeat with additional speed types
6. Click Next at the bottom
7. Deselect ENCUMBRANCE in the TRANSACTION TYPE choices (a lot easier to look at)
8. Click Finish at the bottom

## Compensation Summary (details on employee compensation):

1. Team Content $->$ Finance $->\mathrm{mF}$ in COMPENSATION SUMMARY
2. Type employee ID in the field and hit Search (you need to know your employee's employee ID for this)
3. Click Insert to add them to the report
4. Repeat with additional employees
5. Click Finish at the bottom

## Appendix H. Faculty Raise Process

Snapshot of annual faculty raise process carried out by the Geological Sciences Department AY2022-2023.

## Distribution of raises among faculty and instructors

The department is required to assign raises each year, to be doled out from a salary pool received from the College. Here we describe the principles to which we adhere. We will first maintain salary levels at the same purchasing power year to year (i.e., adjusting for inflation) and then allocate remaining funds using the merit scores determined for each individual. We also acknowledge that there may be faculty members whose pay is for whatever reason deemed to be below those of their peers (in "deficit"). The process followed in any particular year therefore depends upon the size of the salary pool handed to the department to distribute. In any case we set aside a fraction of the pool to address deficits. The remaining pool is distributed according to a combination of base pay and merit allocations.

The faculty must choose three numbers, $\mathrm{a}, \mathrm{b}$ and c in the illustration below, in the range [01]. The first, a, represents the portion of the raise pool to be used for deficit reduction. The second, b, represents the portion to be used for base pay vs merit. The third, c , represents the strength of the dependence of the merit increase on the merit score.

Those deemed to require deficit reduction includes any who have been identified by the College to require deficit reduction, having gained the attention of the College through the salary grievance process described in the Bylaws. The College assigns a particular raise, contributing a portion of that raise and requiring the department come up with the rest.

At present (as of Spring 2023) the faculty has agreed that if the pool remaining after the deficit fraction is subtracted is below the cost-of-living increase, all faculty receive equal pay raises and there is no explicit merit allocation. This is a progressive approach as those with the lowest salaries receive the greatest percentage raises.

The merit portion of the raise is allocated according to the merit scores assigned by Excomm for that year. The algorithm for this process is illustrated below.


The normalized merit score to be used in assigning the merit-based portion of the raise is:
$\left.\mathrm{M}^{\prime}=1+\mathrm{c}^{*}\left[\left(\mathrm{M}-\mathrm{M}_{\mathrm{bar}}\right) / \mathrm{M}_{\text {stdev }}\right]\right)$
where $\mathrm{M}_{\text {bar }}$ the mean score, and $\mathrm{M}_{\text {stdev }}$ the standard deviation of the merit scores. Note that if c is chosen to be 0 , all scores are the same. In general, we have been choosing to employ a small c, meaning that the dependence on the merit score is weak.

