

**Tenure and Promotion Guidelines for Scholarship and Creative Activity  
Division of Natural Sciences**

**College of Arts & Sciences  
Stetson University**

**I. THE DIVISION OF NATURAL SCIENCES**

The division comprises six departments: Biology, Chemistry, Integrative Health Sciences, Geography and Environmental Science, Mathematics and Computer Science, and Physics. These departments and the disciplines they house are devoted to the study of natural, mathematical, and computational structures and processes.

This document articulates the Division of Natural Sciences' interpretation of the University standards for scholarship in the context of both the University and Division missions. The Division recognizes that, as teacher-scholars, it is imperative that faculty remain actively engaged in the discipline via continuing scholarly activities throughout their careers. However, the Division also recognizes that at a regional Masters I institution where faculty have significant teaching, service, and advising loads, it is appropriate for the faculty evaluation system to recognize and reward a variety of forms of scholarship in the tenure and promotion process.

**MISSION OF THE DIVISION OF NATURAL SCIENCES**

The application of the University's mission statement to the educational experience in the sciences is outlined in the Division of Natural Sciences' mission statement which states that 'the methods of the natural sciences are best learned by science majors through extensive hands-on participation in undergraduate research, and by non-majors through investigative work.' The Division also recognizes that 'it needs to reach beyond the confines of our campus to enlighten and inform the public of the essence... of science and mathematics', and that 'we have a special obligation to consider the ethical implications of the scientific knowledge...' and 'to further the conviction that scientific knowledge and technology be used to understand and appreciate our fragile natural environment.'

**II. DEFINITIONS, CATEGORIES, & EVALUATION OF SCHOLARLY AND CREATIVE ACTIVITY**

Scholarship in the Division of Natural Sciences must involve a high level of disciplinary expertise, be public<sup>1</sup>, subject to critical review, and in a form that allows use/exchange by other members of the scholarly community. The Division recognizes all models of scholarship (discovery, engagement/application, teaching and learning (SoTL), and integration *sensu* Boyer) to the extent that they support the mission and meet the university standards for scholarship (rigor, engagement, evolution/maturity, consistency, development of expertise and recognition). The tangible scholarly outcomes recognized by the Division are listed below in order of decreasing weight. Items listed within the same group are considered to have potentially equivalent weight. However, all scholarly

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<sup>1</sup> To the extent possible—it is acknowledged that there are special cases where client confidentiality, proprietary information, or security clearances, etc. may prevent full dissemination of results.

outcomes (regardless of placement in the list below) must be evaluated for scope and impact for the purposes of tenure and promotion. No item appears on the list more than once; the list is not exhaustive.

- a. Scholarly work:
  - i. Peer-reviewed journal articles (including those with student co-authors), books, book chapters, textbooks, peer-reviewed papers published in conference proceedings, externally published lab manuals, and substantive reports from community-based research or consulting projects
  - ii. Funded grants
  - iii. Vetted essays in high quality general interest periodicals, electronic media (educational resources, software), invited presentations, invited workshops, unfunded substantive grant proposals (with positive reviews; copies of all reviewer's comments must be included in portfolio)
  - iv. Conference presentations (including those by students with faculty co-authors) and associated published abstracts, workshop presentations and associated published abstracts

### III. CRITERIA FOR THE INTERPRETATION AND EVALUATION OF SCHOLARSHIP

The Division highly values and strongly encourages the involvement of undergraduates in the scholarly process to the extent possible given a faculty member's area of expertise and senior research mentoring workload. As practiced in the Division, engagement of students in the scholarly process has unique effects on scholarly output and can impact the quality and frequency of publication. However, because student involvement in research is central to our mission, a high degree of student involvement is desirable, and should be considered meritorious when evaluating a candidate's scholarly work during the tenure and promotion or promotion process. The following criteria are used to evaluate the quality of the tangible scholarly outcomes listed in Section IIa:

- i. **Peer-reviewed journal articles, papers published in peer-reviewed conference proceedings, vetted essays in high quality general interest periodicals:** degree of student involvement, acceptance rate of journal, journal prestige, article scope (note vs. full length article, classroom exercise vs. evidence based, curriculum design), conference scope (e.g., regional, national, international), acceptance rate of conference, periodical circulation, citation analysis
- ii. **Textbooks, books, book chapters, and externally published lab manuals:** quality of publisher (academic vs. vanity press), reviews, adoption rate, comments of external reviewers
- iii. **Substantive reports:** scope of scholarly work involved, impact on and sophistication of intended audience, dissemination of results, comments from external reviewers

- iv. **Funded grants:** granting agency, funding rate (as a measure of competitiveness), grant amount, degree of support for undergraduates, number of faculty and/or students affected
  - v. **Electronic media (e.g., software, educational resources):** number of visits and/or users (*e.g.* output of Google Analytics), comments from external reviewers, critical reviews in technical or popular press
  - vi. **Unfunded grant proposals:** percent of positive reviews, reason cited for lack of funding (*e.g.*, very limited funding pool, major flaws in study design) and indication (if any) of potential future funding of project, funding rate of grant program, scope of proposal review (multi-stage, individual or panel review, etc.)
  - vii. **Conference presentations (by faculty or student co-authors), workshop presentation:** scope of conference (international, national, regional, local), sophistication of audience, length of presentation, whether talk was invited (invitations viewed favorably), or whether abstracts were selected through a competitive process
- b. Criteria for establishing rigor for non-traditional forms of scholarship (*e.g.*, items iv and v in above list)

For some forms of scholarship, the peer review process may be more complex than for articles submitted to scholarly journals. Candidates are encouraged to pursue alternative methods of peer review for non-traditional tangible scholarly outcomes to demonstrate how these types of evidence meet the standard of **rigor**. For example, peer review might not occur until after the work is disseminated, the reviewers might be in various academic fields or professions (*e.g.*, government employees such as the Florida Department of Environmental Protection), or the evaluation might have to be inferred from audience response, subsequent invitations extended, implementation of recommendations from a technical report, copies of books sold, postings on a blog, etc. In these latter cases, the candidate and his or her colleagues should make a point of clarifying the nature of the peer review process and the resulting evaluation. Ultimately, the onus is on the candidate/department to demonstrate how an alternative peer review process has established the rigor of a tangible scholarly outcome. Thus, the nature of the peer review and response should be made clear enough that colleagues can understand and evaluate it.

#### IV. AUTHORSHIP

In the Division and across the sciences, collaborative work among faculty and between faculty and students is a highly valued common practice. This will be reflected by the fact that most publications will have multiple authors. Although students typically have a high degree of involvement in experimental design, data collection, and data analysis, publication in peer-reviewed journals typically reflects a high degree of faculty effort in bringing the publication to fruition. Thus, a paper with only student co-authors is considered equal to a solely authored publication. In multi-authored publications involving faculty, significant contribution is usually indicated by being first or last author (although in some disciplines authors are listed alphabetically), or by a relatively small number of collaborators (3 or less)

regardless of the order in which the author is listed. In general, the Division gives full credit for multi-authored papers and does not endorse parsing of authorship.

## V. SCOPE AND IMPACT

Although evaluation of scope and impact is a function of the type of scholarly activity or outcome being evaluated, some factors to consider with regards to scope and impact are the size and sophistication of the intended audience, the number of affected individuals, length of publication/presentation, extent of experimental effort and/or data analysis, publication quality, and comments by departmental colleagues and external reviewers. For example, in pedagogical work, impact and scope may be determined by evaluating whether students from a single course are affected or whether the work affects several courses or an entire curriculum or whether educational materials have been widely adopted.

In evaluating grant support, the size of the award, competitiveness of the grant, number of faculty and/or students supported, and number and prestige of internal and external collaborators are important evaluative criteria.

For publications, impact can be evaluated by journal circulation (local, national, international), citation analysis, and/or comments from colleagues and/or external reviewers. However, since journal impact factors are influenced by many variables, some of which are not related to journal quality per se, they should not be relied upon too heavily. Scope of journal articles and other published materials can also be determined by publication length, quality of the journal/publisher, degree of experimental/programming effort/data analysis, or synthesis (*e.g.*, textbooks) involved, sophistication of the employed techniques, the number of field seasons involved, colleague letters, and/or comments from external reviewers. The scope and impact of other forms of tangible scholarly outcomes can be evaluated in a similar manner, using the criteria listed under 'Evaluation'.

## VI. MINIMUM STANDARDS FOR TENURE AND PROMOTION TO ASSOCIATE

Candidates for tenure and promotion to Associate Professor must meet the standards of **rigor**, **engagement**, **evolution**, and **consistency** set forth in the University Tenure and Promotion guidelines. It is expected that candidates for tenure and promotion to Associate Professor will be active teacher-scholars who engage in the discipline and/or pedagogy of the discipline by producing tangible scholarly outcomes (see Section IIa), and by participating in supplemental scholarly activities such as regular attendance/presentations at disciplinary/pedagogy conferences wherever possible, and continued strong mentoring of senior research projects where possible. Candidates in the Natural Sciences are encouraged, but not required, to involve undergraduates in their own scholarly endeavors. Similarly, candidates in the Natural Sciences are encouraged, but not required, to seek external grant funding. During the pre-tenure period, the candidate should have clear evidence of productivity and demonstrate that his/her scholarship has progressed to a stage where it results in peer-reviewed publication, and perhaps grant support, or other form of recognition appropriate to the model of scholarship.

The standards for tenure and promotion to Associate can be met as follows:

**Rigor:** Generally speaking, for tenure and promotion to Associate Professor, a candidate will have a variety of scholarly and professional activities that will, taken together, begin to form a record of active contribution to the discipline. At least two peer-reviewed tangible scholarly outcomes from Section IIa.i-iii, at least one of which must come from Section IIa.i, are required to meet the standard of **rigor** (although, with consideration of the evaluation criteria mentioned in ‘Evaluation’ and ‘Scope and Impact’ and depending on the nature of the scholarly product, a case may be made for fewer than two, for products that are more rigorous and/or sophisticated, or for more than two, for products of lesser rigor and/or sophistication). No specific amount of scholarship, however, is a guarantee of tenure and promotion, as a candidate is evaluated by additional standards for scholarship (see below) and in the areas of teaching and service.

**Engagement:** In addition to the items listed in Section IIa, conference attendance, reviewing grant proposals and/or manuscripts submitted to peer reviewed journals, outreach via radio/film/TV to explain one’s discipline or research findings to the broader public, applied research projects focused on solving environmental/social issues involving public agencies or private corporations (*e.g.*, using geospatial methods to delineate wetlands for possible CARL/Florida Forever land acquisition for a public entity), Stetson summer grants, curriculum development, helping to improve pre-and post-collegiate science education (*e.g.*, by conducting workshops for K-12 teachers), consulting in the public and private sectors, mentoring SURE grant recipients, senior projects, and/or independent study projects may be used to demonstrate **engagement**. Significant involvement of the community in scholarly work and/or participation in professional organizations may demonstrate that this standard has been met.

**Evolution:** The candidate’s record of scholarly activity is central to demonstrating evolution (interpreted here as change through time). Thus, items used to demonstrate **rigor** and **engagement** may also be used to meet this standard, as can Faculty Activity Reports (FARs). Evolution may be demonstrated by a growing body of work on a focused topic, or by work that has begun to broaden into new investigative realms and/or modes of scholarship. Scholarly outcomes should reflect the incorporation of current practices into the discipline and that the candidate has developed his/her own line of scholarship since arriving at Stetson. Thus, while scholarly outcome(s) from the dissertation and/or post-doctoral work can be used to meet other standards, dissertation/post-doctoral work alone is not sufficient for meeting the standard of **evolution**.

**Consistency:** All items listed above can be used to demonstrate **consistency**. Generally speaking, consistency involves some scholarly contribution every year on average.

## **VII. MINIMUM STANDARDS FOR PROMOTION TO PROFESSOR**

Candidates for promotion to Professor must meet, in a manner appropriate to the model(s) of scholarship, the standards of **rigor, engagement, maturity, development of expertise, recognition, and consistency** set forth in the University Tenure and Promotion guidelines. This will be reflected by the sustained production of tangible scholarly outcomes along with supplemental scholarly activities with

some at a higher level, and sustained strong mentoring of senior research projects and, where possible, consistent involvement of undergraduates in research.

The standards for promotion to Professor can be met as follows:

**Rigor:** For promotion to Professor, candidates must have a body of work that demonstrates they have achieved a level of expertise in some area(s) of the discipline. Generally speaking, at least four peer-reviewed tangible scholarly outcomes from Section IIa.i-iii since promotion to Associate, at least two of which must come from Section IIa.i, are required to meet the standard of **rigor** (although, with consideration of the evaluation criteria mentioned in 'Evaluation' and 'Scope and Impact' and depending on the nature of the scholarly product, a case may be made for fewer than four, for products that are more rigorous and/or sophisticated, or for more than four, for products of lesser rigor and/or sophistication). No specific amount of scholarship, however, is a guarantee of promotion, as a candidate is evaluated by additional standards for scholarship (see below) and in the areas of teaching and service.

**Engagement** may be demonstrated using evidence described above under Minimum Standards for Tenure and Promotion to Associate Professor.

**Maturity:** This can be demonstrated using evidence described for **evolution** under standards for tenure and promotion to Associate Professor and by some additional evidence (invited papers or seminars, awards, and/or leadership in professional or community organizations related to scholarly expertise in the candidate's field). The continued intellectual growth in scholarly activity should clearly occur during the time *since promotion to Associate*. **Maturity** can also be demonstrated by invitations to serve on grant review panels, and by engaging in more broad forms of scholarship, including evidence-based curriculum reform, public and private consulting, applied research projects (*e.g.*, solving environmental or social problems for private or public entities), and helping to improve pre- and post-collegiate science education, but is not limited to these examples.

**Development of Expertise:** See evidence under **rigor** and **maturity** above. Generally speaking, development of expertise is demonstrated by continued productivity involving a focused or evolving body of work and can result in solicitations for serving as a reviewer for journals or grant applications, by serving on an editorial board(s), by solicitations for TV/newspaper/telephone interviews, consulting for private or public entities, invited seminars, invitations to present and/or moderate conference sessions, etc.

**Recognition:** The requirement for **recognition** should especially be placed in the context of the University mission and faculty teaching load. Campus, local, and regional awards are significant achievements for Division faculty and can demonstrate that a candidate has been recognized for making a meaningful contribution to the discipline in a manner appropriate to the University mission.

**Recognition** may also result in invitations to speak, referee, moderate conference sessions, lead professional organizations, consult for private or public entities, or to make appearances in the mass media to explain one's discipline or the research results. **Recognition** can also be demonstrated by citation analysis, the quality of the peer reviewed journal in which work is published, the

competitiveness of a grant that has been awarded, and the adoption rate for text books or lab manuals, or the conferring of national or international awards.

**Consistency** may be demonstrated by all activities in the criteria listed above for promotion to Professor. However, as service commitments increase, interruptions to scholarly activity may be more likely in the post-tenure period, and any resultant 'gaps' in the scholarly record should be explicitly addressed in the narrative and due consideration given in evaluation.

Approved by the Faculty of the Division of Natural Sciences, May 2011

Final edits, September 2011