I. PURPOSE AND MEMBERSHIP

A. The Committee on Appointments

The Committee on Appointments (CA) serves as the departmental evaluative body on all new appointments to the faculty. The CA consists of all tenured and tenure-track faculty in the Department, regardless of the rank to which the candidate would be appointed, and the Aerospace and Mechanical Engineering (AME) Department Chair serves as the chair and as an ex-officio member of the CA. Other regular faculty members may be appointed to the CA as deemed appropriate by the Chair, particularly in cases of appointment of non-tenure-track faculty, such as Teaching and Research Faculty.

The CA makes recommendations for appointments to the regular faculty as defined in Article IV, Section 1, subsection a (1-7) of the Academic Articles: Tenured and Tenure-Track, Research and Teaching. Qualifications for appointment to the regular faculty at the rank of instructor, assistant professor, associate professor and professor are specified in Article IV, Section 3, Subsection (a-g) of the Academic Articles.

The procedure for appointments to the faculty as University Named Chair are described in Article IV, Section 5/Subsection (a) of the Academic Articles.

B. The Committee on Reappointment, Promotion and Tenure

The duty of the Committee on Reappointments, Promotion and Tenure (CRPT) shall be to evaluate cases of reappointment to assistant professor, promotion to associate professor with tenure, full professor or endowed chair, promotion to associate professor or full professor for non-tenure-track regular faculty, and consideration of rank for new appointments beyond the rank of assistant professor. CRPT membership consists of all tenured members of the faculty who hold at least the rank to which the candidate seeks promotion, or in the case of reappointment of a tenure-track faculty member, who are at least tenured at the rank of associate professor. A non-tenure-track regular faculty member who holds a rank higher than any candidate under consideration may be included in the CRPT for evaluation of non-tenure-track regular faculty as deemed appropriate by the Chair. The AME Department Chair serves as the chair and as an ex-officio member of the CRPT. Conflicts of interests (COI) that preclude both internal and external participation in the CRPT evaluation of a candidate are detailed in the Reappointment, Promotion and Tenure (RPT) Guidelines issued by the Provost’s Office each academic year.

C. CRPT Executive Committee

The AME Department does not make use of a CRPT Executive Committee.

II. CONFIDENTIALITY

All members of the CA and CRPT are obliged to respect the highly confidential nature of their proceedings, including deliberation, voting, recommendations, minutes and other documents. Committee documents are available to succeeding committees to the extent necessary to the
appropriate conduct of their business. The Chairperson is not precluded from conveying to the faculty member involved the essence of a CRPT’s periodic evaluation unrelated to a specific reappointment or promotion.

III. VOTING AND ELECTION PROCEDURES

A quorum of the CA members (defined as a simple majority, including proxy votes) shall vote on the acceptance of the recommendation made by a search committee. The CA deliberation and results of the secret, non-identifying, written vote shall be recorded in the minutes of the CA and transmitted to the Chair and Dean of the College.

A majority of eligible CRPT members must be present to discuss a case under consideration, while a quorum, consisting of a super majority of eligible CRPT members (including proxy votes), shall vote on the promotion case. The CRPT deliberation and results of the confidential, identifying, written vote shall be recorded in the minutes of the CRPT and transmitted to the Chair and Dean of the College.

When an eligible CA/CRPT member cannot attend a meeting where a vote is planned, she/he can assign her/his proxy vote to another eligible CA/CRPT member in attendance. A proxy vote is not a preauthorization of a yay or nay vote on a specific case under consideration. Rather, the colleague selected as the proxy can cast a vote on behalf of the absent CA/CRPT member using their best judgement of the case under consideration, with the specific intent of ensuring a fully informed vote based on the dynamics of the meeting deliberations. Designation of a proxy vote must be made in writing to the Chair or the Department Administrator prior to the beginning of the meeting in question.

IV. APPOINTMENTS OF REGULAR FACULTY

Formal procedures for the appointment of regular faculty are found in Article IV/Section 5, subsection a-g of the Academic Articles.

In cases of initial appointment, the Chair will form a search committee from the eligible CA membership to organize and conduct a search for a new faculty member. Each search committee shall be constituted by members of the CA, and there is no limit on the size of a search committee. The Chair, in consultation with CA members, shall make the appointment to a search committee, and the Chair can be an ex-officio member of a search committee.

A search committee shall conclude its business with a recommendation of a new faculty candidate or candidates to the CA. The recommendation shall include a report to the CA to aid in its deliberation. Following the conclusion of the search committee business, that committee shall be disbanded. In cases where a rank other than assistant professor could be warranted for a given candidate, the CA will first deliberate and vote on the suitability of the candidate for an appointment in the Department and then the CRPT will evaluate at what rank any potential offer should be made.
V. REAPPOINTMENT, PROMOTION AND TENURE PROCEDURES

Formal procedures for reappointment and promotion of regular faculty are found in Article IV/Section 5, subsection (a-g) of the Academic Articles.

Information on submission dates and required materials for reappointment, promotion and tenure are provided annually in the following documents:

- TTT RPT Guide
- Timeline for Faculty Reappointment, Tenure and Promotion
- Guide to the Reappointment Process for SPF, Library and Research Faculty

and are available on the Provost’s Office Website at https://provost.nd.edu/committees/provosts-advisory-committee/

A sub-Committee on Promotion (COP) shall prepare the supporting material for the promotion case of a Department faculty member. The members of the COP shall come from the CRPT membership to ensure that they are at least at the rank of the promotion case under consideration, and there shall be no limit on the size of the COP. Appointments to the COP shall be made by the Chair, in consultation with CRPT members. The Chair can be an ex-officio member of a COP.

Each COP shall develop the supporting material for the promotion candidate (the details of which are outlined in the Guidelines for Reappointment, Promotion and Tenure distributed by the Provost’s Office each year) that addresses the specific metrics for faculty performance for promotion in rank that are delineated in the Academic Articles and in the Appendices of this document. The Chair, in consultation with the COP and CRPT, will solicit external letters of evaluation of the promotion candidate. The supporting material shall be compiled in a written report and submitted to the CRPT for their deliberations. Following the conclusion of the COP business, that committee shall be disbanded. To ensure confidentiality of external reviewers, candidate assessment letters will be made available through the Chair.

VI. STANDARDS FOR REAPPOINTMENT, TENURE AND PROMOTION

General standards for reappointment, tenure and promotion are found in Article IV/Section 3/Subsection (a-g) of the Academic Articles.

Department-specific standards for reappointment, tenure and promotion are found in the Appendices of this document.

VII. AMENDMENTS TO THE ORGANIZATIONAL PLAN

Amendment of the organization plan must be approved by a two-third majority vote of those regular faculty members attending any regularly scheduled department meeting, provided that written notice of the proposed amendment be given at least seven days in advance of the meeting.

All amendments must be approved by the Dean of the School or College and the Provost or the Provost’s delegate.

Approved by the AME Faculty: May 2, 2019
Appendix A

University of Notre Dame

Department of Aerospace and Mechanical Engineering

AME Faculty Annual Review Process

The following describes the annual AME faculty review process for AME tenured/tenure-track, research and teaching faculty. The information requested as a part of this process provides an evaluative basis for a number of important departmental activities and processes, including: reappointment, promotion and tenure; teaching loads and assignments; service loads and assignments; internal and/or external award nominations; annual merit salary evaluation.

1. Prior to the beginning of the fall semester, each member of the faculty is asked to update their CV and provide an electronic copy for use by the Department.

2. **By February 1 each year, all AME faculty will submit an updated, comprehensive CV to the Chair, specifically highlighting all relevant professional activities and accomplishments from January 1 to December 31 in the year prior.** It is recognized that relevant professional activities will differ for research, teaching and tenured/tenure-track faculty. Potentially relevant activities that occurred during this period to highlight include, but are not limited to:

   **Research Activities, Accomplishments and Recognitions**
   - Journal articles that appeared
   - Journal articles accepted for publication
   - Journal articles submitted for review
   - Peer-reviewed conference and symposium papers published
   - Books, chapters, monographs, technical reports, etc. published
   - Conference presentations or posters given
   - Invited lectures at conferences or other institutions given
   - Externally funded research grants active
   - External research proposals submitted
   - External research proposals awarded
   - Internally funded research grants active
   - Internally research proposals submitted
   - Internally research proposals awarded
   - Research awards and professional research recognitions received

   **Teaching and Mentoring Activities, Accomplishments and Recognitions**
   - Courses taught, including enrollments
   - Courses developed or substantially renovated

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1 Identify the corresponding author and any co-authors that are Notre Dame mentees (students and/or postdocs).
2 Identify the presenting author and any co-authors that are Notre Dame mentees (students and/or postdocs).
3 Please list the grant/proposal title, the funding agency (including the prime sponsor), the PI, your role (if not the PI), the grant performance period, total funded amount, funding specifically allocated to your activities.
• Advisement of co-curricular clubs, student professional societies, and/or other student groups
• Industry partnerships for curricular purposes
• Undergraduate student research projects mentored
• Undergraduate student design projects mentored
• Number of undergraduate students advised for registration/career purposes
• Names and status of all current graduate student advisees
• Names and status of all current postdoc advisees
• Names, status, and placement of all graduate students who completed their degree and postdocs that completed their appointment
• Externally funded education/curricular grants active/received and/or proposals submitted
• Internally funded education/curricular grants active/received and/or proposals submitted
• Teaching awards and professional educational/teaching recognitions received

Professional Service Activities
• Professional society activities, including governance roles, editorships, etc.
• Conference/workshop organization, session chair activities, etc.
• Proposal review activities
• Journal and/or conference paper review activities
• Community and/or K-12 outreach
• Other external service

Internal (Department, College and/or University) Service Activities
• Service on Department, College and/or University committees
• Service on Qualifying Exam, Candidacy Exam, and/or Dissertation Committees
• Other internal service and/or outreach, including Early Admit activities, Building Bridges mentoring, Kaneb Center panels, etc.

Professional Development Activities
• Teaching effectiveness workshops and/or programs
• Research-oriented workshops (CAREER proposal writing, student mentorship, …)
• Leadership workshops and/or programs
• Other professional development activities (Diversity and inclusion; Early faculty success; …)

3. To complement their highlighted CV, all AME faculty will submit an at most one-page summary of their accomplishments. This summary is intended to give faculty the opportunity to provide additional context for the professional activities and accomplishments highlighted in their CV.

4. The progress of all untenured faculty will be discussed by the tenured CRPT during in the spring semester. Based on this discussion, the Chair will prepare an annual written report providing an assessment of their performance in teaching, research and service. Copies of this report will be sent to the Dean and Provost. The letter and issues therein will be discussed with the faculty during their annual spring meeting with the Chair. This report is intended to be completed prior to the end of the spring semester.

5. The progress of all tenured associate professors will be discussed by the full professor CRPT
in the spring semester. The Chair will then meet with each tenured associate professor individually to convey the progress assessment of the CRPT.

6. The progress of all assistant teaching/research professors will be discussed by the CRPT composed of all tenured faculty members and associate and full teaching/research faculty members in the spring semester. The Chair, or Chair-designate, will meet with each assistant teaching/research professor individually to convey the progress assessment of the CRPT. A more comprehensive review of assistant teaching/research professors by the aforementioned CRPT will be conducted when promotion consideration is warranted or every six years in rank, whichever is sooner.

7. The progress of all associate teaching/research professors will be discussed by the CRPT composed of all full professors and full teaching/research professors in the spring semester. The Chair, or Chair-designate, will meet with each associate teaching/research professor individually to convey the progress assessment of the CRPT. A more comprehensive review of associate teaching/research professors by the aforementioned CRPT will be conducted when promotion consideration is warranted or every six years in rank, whichever is sooner.

8. All other faculty are invited to meet with the Chair during the second half of the spring semester to review their annual activity and discuss other issues of mutual concern.

Approved by the AME Faculty: January 16, 2020
Appendix B

University of Notre Dame
Department of Aerospace and Mechanical Engineering
Criteria and Standards for Promotion of Research Faculty

Criteria and Standards for Reappointment to Assistant Research Professor:

Two primary criteria are considered during the evaluation of the candidate’s record: Research/Scholarship, including mentorship of students and/or postdocs, and a willingness to engage in Service to the Profession and/or University. Elements associated with each criterion are indicated below. The overall assessment of the candidate is based upon achievements associated with each of the elements with respect to the standards.

Research and Scholarship

The Department expects the candidate to have begun making contributions to the candidate’s field(s) of research. Specifically, the candidate is expected to have initiated a research program that addresses important problems and is positioned to make an impact in the near future. Evaluation of the quality of a research program in this regard is based on scholarly works, mentorship of students and/or postdocs, intellectual property (when appropriate), applications for and attainment of research funding, and infrastructure development (when appropriate). Because the fields of aerospace and mechanical engineering are extremely broad, though, no single standard in any of these categories is universally applicable to all candidates. The CRPT and the department chair objectively weigh the contributions in each area, emphasizing the level of research quality and productivity at the time of reappointment evaluation and the likelihood that the candidate’s record will continue to grow in quality, quantity and relative independence to eventually reach a level appropriate for promotion consideration.

It is understood that the candidate’s research activities are likely to be supported by one or more tenured or tenure-track (TTT) and/or other research faculty (termed the candidate’s initial faculty collaborator(s) hereafter). While not expressly required for reappointment consideration, the Department also values and encourages efforts by the candidate to cultivate more independent research activities outside of these initial faculty collaborator(s). In this context, independent research activities are defined as those that are the sole research efforts of the candidate and the candidate’s mentees and/or those research efforts that are collaborative with other TTT and/or research faculty who are not the candidate’s initial faculty collaborator(s).

At the time of reappointment evaluation, the candidate should be producing scholarly works that reflect accomplishments as a collaborative researcher at Notre Dame. Scholarly works include journal papers, conference/workshop/symposia papers, books, book chapters, monographs and invited lectures at conferences, other academic institutions, and/or research organizations. In most sub-disciplines of aerospace and mechanical engineering, papers in highly-regarded refereed journals are expected, but well-placed conference proceedings may be the norm in some fields.

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4 Recognizing that the Graduate School requires all mentees of research faculty members to have a formal co-advisor who is a tenured or tenure-track faculty member.
candidate's record is evaluated in terms of both the quantity and quality of the scholarly publications and how those two characteristics collectively establish the overall impact of the publications. Quantity is assessed primarily to determine if the candidate’s activities during the preceding period continue to build momentum that the candidate’s record will be adequate to establish the candidate as someone who addresses and answers important problems in the field to eventually be considered for promotion evaluation. It is recognized that the candidate’s publication record as an Assistant Research Professor is likely to reflect a transition from papers generated from the candidate’s prior academic appointment (co-authored with mentees at another institution and/or previous research advisors, for example) to papers co-authored with faculty colleagues or external collaborators, single-author papers, and papers with ND mentee co-authors from research conducted at Notre Dame. As editorial practices, including referee review and publication times, can vary significantly between publishers and journals, some publications may be in the editorial process at the time of reappointment; these may also be considered as appropriate. For reappointment evaluation, quality and impact of the publications are judged by internal peer assessment from tenured faculty and research faculty at a rank higher than the candidate.

Intellectual property is primarily taken to mean pending or awarded patents, as well as technology that may be licensed from the University. When appropriate, a candidate’s research program is evaluated in terms of the quantity, quality, and overall impact of any intellectual property, similar to the internal and quantitative evaluations of scholarly publications. In this way, a high quality pending or awarded patent or licensed technology would be viewed as at least equivalent in significance to a scholarly publication.

Finally, the Department recognizes that, in cases where research is primarily sponsored by industry and/or Department of Defense contracts, publication may be limited due to contractual or intellectual property obligations. In such cases, the CRPT will identify other metrics or achievements that can be used to evaluate the quality and quantity of the scholarly accomplishments, including the development of new research facilities, translation of research accomplishments to industrial and/or commercial uses, and/or long-standing industrial partnerships.

Research funding includes funds secured from both internal and external sources. At the time of reappointment evaluation, the candidate is expected to have made significant efforts to submit applications for and eventually attainment of research funding from external sources to support the candidate’s activities. These funds should include support for the candidate’s salary, acquisition of laboratory equipment/supplies and/or support of an appropriate number of graduate students and, as appropriate, post-doctoral researchers and research scientists, at a level that would enable consistent scholarly productivity as described above. It is understood that a predominance of salary support and financial support for the candidate’s research activities is likely from collaborations with their initial faculty collaborator(s). The Department also values efforts by the candidate to balance these activities with the pursuit of a more diverse funding portfolio to support the candidate’s salary and research activities by submitting applications for and attainment of research funding to internal and external agencies that includes a mix of existing collaborative efforts (defined as those on which the candidate is the lead PI or a co-PI with the initial faculty collaborator(s)) and more independent research activities (defined as that for which the candidate is either the sole PI, or is the lead PI or a co-PI with TTT and/or research faculty that are different from the initial faculty collaborator(s)). In cases in which the candidate’s funding mechanisms are primarily collaborative, the candidate’s individual intellectual contributions should be clearly
enough defined to establish the candidate’s research contributions to the larger effort. Evidence of success in attaining external, peer-reviewed research funding is important for evaluating the likelihood that the candidate will continue to build funding momentum to eventually reach a level appropriate for promotion consideration.

Infrastructure development is taken to mean unique physical facilities, pieces of equipment, computer codes, or other novel entities created or modified by the candidate (and the candidate’s research group) as an independent researcher that enable research. The significance of infrastructure is evaluated by 1) internal peer assessment from tenured faculty and 2) metrics related to the utility of the infrastructure (publications or intellectual property related to its development or involving its use, external research funding secured for its development or use, frequency with which other researchers request to use it, etc.). In the case that infrastructure is co-developed by peers of the candidate, it is expected that the candidate’s individual contributions will be sufficiently distinguishable to establish a unique research identity.

In terms of student mentoring, the Department expects the candidate to begin serving as a lead advisor (with a TTT co-advisor, as required by the Graduate School) or co-advisor of graduate students in the pursuit of scholarly research. Mentoring is evaluated by peer assessment of the candidate’s participation in the evaluation, recruitment, and development of graduate students. Graduate student mentoring can be most effectively demonstrated by the candidate successfully advising/co-advising students along the milestones required for successful completion of the Ph.D. degree (including completion of requirements for degree such as the Qualifying examination, co-authoring scholarly publications with these students, student participation in conferences and meetings, etc.), serving on the committees of graduate students advised by other faculty, and contributing to the evaluation of graduate students via Qualifying and Candidacy examinations. At the undergraduate level, mentoring is evaluated by peer assessment of the candidate’s engagement with undergraduates through activities such as, but not limited to, advising undergraduate researchers, undergraduate publications and/or theses, student clubs, and entries into national engineering competitions. The Department also values mentorship of postdoctoral researchers by the candidate.

**Service to the Profession and/or University**

The Department expects the candidate to show a willingness to serve the candidate’s research community beyond the technical research and scholarship contributions evaluated as described above, with demonstration of this commitment increasing modestly with time in rank. This service could include, but is not limited to, membership in the professional society or societies appropriate to the candidate’s research activities, reviewing journal and conference paper submissions, reviewing proposals to funding agencies, giving presentations at conferences or workshops, chairing sessions at conferences or workshops, assisting with the organization of conferences or workshops, participating on technical committees, and other service-oriented activities.

The Department expects that the candidate may also choose to engage with the intellectual and academic life of the community of scholars within the university beyond the research contributions evaluated as described above. Such engagement is valued, but not expressly required, and examples include, but are not limited to, regular participation in departmental meetings, seminars, and hiring activities, serving on formal committees, participating in undergraduate and graduate research forums, meeting with prospective undergraduates, giving laboratory tours or research
presentations to visitors, participating in orientation events, engaging in outreach with the local and regional communities, and other service-oriented activities. In addition, although the Department attempts to avoid assigning teaching responsibilities to research faculty, there are occasions where, by mutual agreement between the candidate and the Department, a research faculty member may teach a course to fill a Department need (with appropriate salary remuneration). This service to the Department’s teaching mission, though not required, is highly valued. The candidate is highly encouraged to appropriately document any informal service activities.

Approved by the AME Faculty: February 13, 2020

Criteria and Standards for Promotion to Associate Research Professor:

Two primary criteria are considered during the evaluation of the candidate’s record: Research/Scholarship, including mentorship of students and/or postdocs, and a willingness to engage in Service to the Profession and/or University. Elements associated with each criterion are indicated below. The overall assessment of the candidate is based upon achievements associated with each of the elements with respect to the standards.

Research and Scholarship

The Department expects the candidate to have made contributions to the candidate’s field(s) of research. Specifically, the candidate is expected to have established a research program that addresses important problems, has had a positive influence on those problems, and is positioned to continue having impact on important problems in the future. Evaluation of the quality of a research program in this regard is based on scholarly works, mentorship of students and/or postdocs, intellectual property (when appropriate), applications for and attainment of research funding, and infrastructure development (when appropriate). Because the fields of aerospace and mechanical engineering are extremely broad, though, no single standard in any of these categories is universally applicable to all candidates. The CRPT and the department chair objectively weigh the contributions in each area, emphasizing the level of research quality and productivity at the time of promotion evaluation and the likelihood of sustained research quality and productivity based on the established history in each area.

It is understood that the candidate’s research activities are likely to be supported by one or more tenured or tenure-track (TTT) and/or other research faculty (termed the candidate’s initial faculty collaborator(s) hereafter). While not expressly required for promotion consideration, the Department also values and encourages efforts by the candidate to cultivate more independent research activities outside of the initial faculty collaborator(s). In this context, independent research activities are defined as those that are the sole research efforts of the candidate and the candidate’s mentees and/or those research efforts that are collaborative with other TTT and/or research faculty who are not the candidate’s initial faculty collaborator(s).

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5 Recognizing that the Graduate School requires all mentees of research faculty members to have a formal co-advisor who is a tenured or tenure-track faculty member.
Scholarly works include journal papers, conference/workshop/symposia papers, books, book chapters, monographs and invited lectures at conferences, other academic institutions, and/or research organizations. In most sub-disciplines of aerospace and mechanical engineering, papers in highly-regarded refereed journals are expected, but well-placed conference proceedings may be the norm in some fields. A candidate’s record is evaluated in terms of both the quantity and quality of the scholarly publications and how those two characteristics collectively establish the overall impact of the publications. Quantity is assessed primarily to determine if the number of publications is adequate to establish the candidate as someone who addresses and answers important problems in the field. The record is likely to be constructed of a spectrum of publications, potentially including papers from the candidate’s prior academic appointment (co-authored with previous research advisors, mentees, and/or collaborators, for example), papers co-authored with the initial faculty collaborator(s), and/or papers generated from the candidate’s more independent research activities, defined above as those that are the sole research efforts of the candidate and mentees and/or those research efforts that are collaborative with other TTT and/or research faculty who are not the candidate’s initial faculty collaborator(s). It is expected that some of the candidate’s papers will be co-authored with the candidate’s mentees (either as lead or co-advisor, within the constraints of the Graduate School requirements). Quality is judged by 1) internal peer assessment from tenured faculty and research faculty at a rank higher than the candidate and 2) external assessment from leaders in the field, both of which will address the quality of the publication venues. Likewise, the overall impact of the publications is evaluated by 1) internal peer assessment from tenured faculty and research faculty at a rank higher than the candidate and 2) external assessment from leaders in the field, both of which will be informed by metrics related to the utility of the work to other researchers (citations within major citation databases, downloads/reads, etc.).

Intellectual property is primarily taken to mean pending or awarded patents, as well as technology that may be licensed from the University. When appropriate, a candidate’s research program is evaluated in terms of the quantity, quality, and overall impact of any intellectual property, similar to the internal, external and quantitative evaluations of scholarly publications. In this way, a high quality pending or awarded patent or licensed technology would be viewed as at least equivalent in significance to a scholarly publication.

Finally, the Department recognizes that, in cases where research is primarily sponsored by industry and/or Department of Defense contracts, publication may be limited due to contractual or intellectual property obligations. In such cases, the CRPT will identify other metrics or achievements that can be used to evaluate the quality and quantity of the scholarly accomplishments, including the development of new research facilities, translation of research accomplishments to industrial and/or commercial uses, and/or long-standing industrial partnerships.

Research funding includes funds secured from both internal and external sources. At the time of promotion evaluation, the candidate is expected to acquire the research funding necessary sustain the candidate’s research activities. These funds should include support for the candidate’s salary, acquisition of laboratory equipment/supplies and/or support of an appropriate number of graduate students and, as appropriate, post-doctoral researchers and research scientists, at a level that would enable consistent scholarly productivity as described above. It is understood that some or all of the candidate’s salary and research activities might be supported by continued collaborations with their initial faculty collaborator(s). However, the Department values efforts by the candidate to
build a more diverse funding portfolio that could include funding as lead PI or co-PI with the initial faculty collaborator(s) as well as more independent research funding defined as those on which the candidate is either the sole PI, or is the lead PI or a co-PI with TTT and/or research faculty that are different from the initial faculty collaborator(s). In cases in which the candidate’s funding mechanisms are primarily collaborative, the candidate’s individual intellectual contributions should be clearly enough defined to establish the candidate’s research contributions to the larger effort.

Infrastructure development is taken to mean unique physical facilities, pieces of equipment, computer codes, or other novel entities created or modified by the candidate (and the candidate’s research group) as an independent researcher that enable research. The significance of infrastructure is evaluated by 1) internal peer assessment from tenured faculty and research faculty at a rank higher than the candidate, 2) external assessment from leaders in the field, 3) metrics related to the utility of the infrastructure (publications or intellectual property related to its development or involving its use, external research funding secured for its development or use, frequency with which other researchers request to use it, etc.), and 4) securing external funding for the development or purchase of the equipment. In the case that infrastructure is co-developed by peers of the candidate, it is expected that the candidate’s individual contributions will be sufficiently distinguishable to establish a unique research identity.

In terms of student mentoring, the Department expects the candidate to have served as the lead advisor (with a TTT co-advisor, as required by the Graduate School) and co-advisor of graduate students in the pursuit of scholarly research. Mentoring is evaluated by peer assessment of the candidate’s participation in the evaluation, recruitment, and development of graduate students. Graduate student mentoring can be most effectively demonstrated by the candidate successfully advising/co-advising students along the milestones required for successful completion of the Ph.D. degree (including completion of requirements for degree such as the Qualifying examination, co-authoring scholarly publications with these students, student participation in conferences and meetings, etc.), serving on the committees of graduate students advised by other faculty, and contributing to the evaluation of graduate students via Qualifying and Candidacy examinations. At the undergraduate level, mentoring is evaluated by peer assessment of the candidate’s engagement with undergraduates through activities such as, but not limited to, advising undergraduate researchers, undergraduate publications and/or theses, student clubs, and entries into national engineering competitions. The Department also values mentorship of postdoctoral researchers by the candidate.

**Service to the Profession and/or University**

The Department expects the candidate to have shown a willingness to serve the candidate’s research community beyond the technical research and scholarship contributions evaluated as described above, with demonstration of this commitment increasing modestly by the time of promotion consideration. This service could include, but is not limited to, membership in the professional society or societies appropriate to the candidate’s research activities, reviewing journal and conference paper submissions, reviewing proposals to funding agencies, giving presentations at conferences or workshops, chairing sessions at conferences or workshops, assisting with the organization of conferences or workshops, participating on technical committees, and other service-oriented activities.
The Department expects that the candidate may also choose to engage with the intellectual and academic life of the community of scholars within the university beyond the research contributions evaluated as described above. Such engagement is valued, but not expressly required, and examples include, but are not limited to, regular participation in departmental meetings, seminars, and hiring activities, serving on formal committees, participating in undergraduate and graduate research forums, meeting with prospective undergraduates, giving laboratory tours or research presentations to visitors, participating in orientation events, engaging in outreach with the local and regional communities, and other service-oriented activities. In addition, although the Department attempts to avoid assigning teaching responsibilities to research faculty, there are occasions where, by mutual agreement between the candidate and the Department, a research faculty member may teach a course to fill a Department need (with appropriate salary remuneration). This service to the Department’s teaching mission, though not required, is highly valued. The candidate is highly encouraged to appropriately document any informal service activities.

Criteria and Standards for Reappointment to Associate Research Professor:

As stipulated in the Academic Articles, reappointment to the rank of Associate Research Professor shall be evaluated ahead of contract renewal consideration (typically every three years). Reappointment to the rank of Associate Research Professor requires that the candidate continue to meet the requirements summarized above under the heading “Criteria and Standards for Promotion to Associate Research Professor.”

Approved by the AME Faculty: February 13, 2020

Criteria and Standards for Promotion to Research Professor:

Two primary criteria are considered during the evaluation of the candidate’s record: Research/Scholarship, including mentorship of students and/or postdocs, and engage in Service to the Profession and/or University. Elements associated with each criterion are indicated below. The overall assessment of the candidate is based upon achievements associated with each of the above elements with respect to the standards. All candidates for promotion to Research Professor must have high-quality contributions relative to the standards that clearly signify that the candidate has established independence as a research and national or international recognition in the field.

Research and Scholarship

Scholarly accomplishments, as evaluated by an internal peer review and an external review by leaders in the candidate’s field, should indicate that the candidate’s research addresses important problems in the field, is characterized by consistent high quality, has gained widespread recognition as having had a positive influence on the issues addressed, and is positioned to continue having impact on important problems in the future. Evaluation of the quality, visibility and impact

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6 Recognizing that the Graduate School requires all mentees of research faculty members to have a formal co-advisor who is a tenured or tenure-track faculty member.
of a research program in this regard is based on a range of metrics, including, but not limited to 1) **scholarly publications** (journal papers, conference/workshop/symposia papers, books, book chapters, monographs and conference presentations), 2) **intellectual property** (pending or awarded patents; when appropriate), 3) **research funding** (funds secured from both internal and external sources necessary to sustain the candidate’s research activities), 4) **external recognitions** (internal and external awards, invited lectures, journal editorships, leadership in relevant external societies, etc.), and 5) **infrastructure development** (unique physical facilities, pieces of equipment, computer codes, or other novel entities created or modified by the candidate (and the candidate’s research group) while at ND that enable the candidate to conduct research; when appropriate).

Because the fields of aerospace and mechanical engineering are extremely broad, though, no single standard in any of these categories is universally applicable to all candidates. Thus, the metric of evaluation is that the candidate’s scholarly productivity is consistent with the candidate’s specific field at top-tier research universities. This assessment is made based upon the accomplishments reflected in the candidate’s record and as evaluated by 1) an internal peer assessment and 2) external assessment by leaders in the field, both of which will be informed by metrics related to the utility of the scholarly accomplishments (citations within major citation databases, downloads/reads, leadership of larger, collaborative research projects, etc.). The Department recognizes that, in cases where research is primarily sponsored by industry and/or Department of Defense contracts, publication may be limited due to contractual or intellectual property obligations. In such cases, the CRPT will identify other metrics or achievements that can be used to evaluate the quality and quantity of the scholarly accomplishments, including the development of new research facilities, translation of research accomplishments to industrial and/or commercial uses, and/or long-standing industrial partnerships.

The record of a candidate for promotion to Research Professor must show tangible and sustained evidence that a majority of the research activities are independent, defined as those that are the sole research efforts of the candidate and mentees and/or those research efforts that are collaborative with other TTT and/or research faculty who are not the candidate’s initial faculty collaborator(s). This evidence is expected to be clear across the metrics of research program evaluation defined above and consistent with the candidate attaining widespread recognition as a leader in the field.

In terms of student mentoring, the Department expects the candidate to have a consistent record of service as the lead advisor (with a TTT co-advisor, as required by the Graduate School) and co-advisor of graduate students in the pursuit of scholarly research. Mentoring is evaluated by peer assessment of the candidate’s participation in the evaluation, recruitment, and development of graduate students. Graduate student mentoring can be most effectively demonstrated by the candidate successfully advising/co-advising students through the Ph.D. degree (including co-authoring scholarly publications with these students), serving on the committees of graduate students advised by other faculty, and contributing to the evaluation of graduate students via Qualifying and Candidacy examinations. At the undergraduate level, mentoring is evaluated by peer assessment of the candidate’s engagement with undergraduates through activities such as, but not limited to, advising undergraduate researchers, undergraduate publications and/or theses, student clubs, and entries into national engineering competitions. The Department also values mentorship of postdoctoral researchers by the candidate.
Service to the Profession and/or University

Candidates for promotion to Research Professor should have engaged with and made tangible contributions to the research community beyond the technical research and scholarship contributions evaluated as described above. Outside of the external service expectations associated with the candidate’s previous promotion, the candidate should have attained stature as a leader in the research community as demonstrated by, but not limited to, journal editorships, sustained participation in technical committees or other society-related activities, leadership in a scholarly society and/or technical committee, conference organization, regular contributions as a reviewer for journals and/or external funding agencies, and/or service on boards or as an advisor for projects that are related to the candidate’s professional status.

The Department expects that the candidate may also choose to engage with the intellectual and academic life of the community of scholars within the university beyond the research contributions evaluated as described above. Such engagement is valued, but not expressly required, and examples include, but are not limited to, regular participation in departmental meetings, seminars, and hiring activities, serving on formal committees, participating in undergraduate and graduate research forums, meeting with prospective undergraduates, giving laboratory tours or research presentations to visitors, participating in orientation events, engaging in outreach with the local and regional communities, and other service-oriented activities. In addition, although the Department attempts to avoid assigning teaching responsibilities to research faculty, there are occasions where, by mutual agreement between the candidate and the Department, a research faculty member may teach a course to fill a Department need (with appropriate salary remuneration). This service to the Department’s teaching mission, though not required, is highly valued. The candidate is highly encouraged to appropriately document any informal service activities.

Criteria and Standards for Reappointment to Research Professor:

As stipulated in the Academic Articles, reappointment to the rank of Research Professor shall be evaluated ahead of contract renewal consideration (typically every five years). Reappointment to the rank of Research Professor requires that the candidate continue to meet the requirements summarized above under the heading “Criteria and Standards for Promotion to Research Professor.”

Approved by the AME Faculty: February 13, 2020
Appendix C

University of Notre Dame

Department of Aerospace and Mechanical Engineering

Criteria and Standards for Promotion of Teaching Faculty

The University Academic Articles prescribes the following standards related to promotion of Teaching Faculty:

Teaching faculty are engaged primarily in teaching activities and academic program support. Teaching faculty hold appointments in academic units of the University and have the ranks of Teaching Professor, Associate Teaching Professor, and Assistant Teaching Professor,” (Article IV/Section 1/Subsection (a)(3)).

The Assistant Teaching Professor should have promise as a teacher, interest in students, willingness to serve the academic unit, the University, and/or his or her discipline, and that genuine spirit of study necessary to assure growth in knowledge and maturity. The Associate Teaching Professor should ordinarily have demonstrated outstanding teaching ability, growth in knowledge and maturity, salutary influence on colleagues and students, service to the academic unit, the University, and/or his or her discipline, and standing among colleagues. The Teaching Professor should ordinarily possess the qualifications required for appointment as an Associate Teaching Professor; should have given significant service to the academic unit, the University, and/or his or her discipline; and should ordinarily have made significant academic contributions beyond the faculty member’s own courses (more generally within that faculty member’s academic unit, at the University level, or through national organizations). (Article IV/Section 3/Subsection (c))

Teaching Faculty have less control over their teaching assignments and thus, less control than tenure-track faculty over creating opportunities to develop new courses, serve on committees, etc. Therefore, a candidate for reappointment and promotion is only evaluated on the professional responsibilities specified at the time of appointment as well as reviewed and discussed annually.

Criteria for Reappointment as Assistant Teaching Professor

For renewal as an Assistant Teaching Professor, a candidate should have demonstrated effectiveness as a teacher, with the potential to be outstanding, interest in students, willingness to serve the academic unit, the University, and/or the discipline, that genuine spirit of study necessary to ensure growth in knowledge and maturity, and a willingness to engage in professional development.

For cases in which Assistant Teaching Professors have been asked to develop new courses, a candidate should demonstrate effectiveness in course design. For cases in which Assistant Teaching Professors have been asked to serve AME in roles such as advising individual students, advising student clubs and organizations or serving on committees or in administrative roles, the candidate should have demonstrated a willingness to serve the institution and effectiveness in those roles.
The Department highly values a candidate’s efforts to improve the practice of teaching. The Department also encourages originality and experimentation in presenting course material across the curricula, so novel contributions to core courses are highly valued.

**Criteria for Promotion to Associate Teaching Professor**

For promotion to Associate Teaching Professor, a candidate must have demonstrated outstanding teaching effectiveness, a willingness to engage in and evidence of sustained professional development (as discussed below), salutary influence on colleagues and students, service to the academic unit, the University, and/or the discipline, standing among colleagues.

**Criteria for Promotion to Teaching Professor**

For promotion to Full Teaching Professor, a candidate must have demonstrated all the qualifications for Associate Teaching Professor, significant service to the academic unit, the University, and/or the discipline, and significant academic contributions beyond the candidate’s own courses (more generally within the candidate’s academic unit, at the University level, and/or through national organizations).

**Evaluation Guidelines**

In what follows, peer assessment refers to that conducted by tenured faculty or teaching faculty at a rank higher than that of the candidate, or in the case of reappointment of a full teaching professor, at the rank of the candidate seeking reappointment.

*Teaching and Mentoring*

Evaluating a candidate’s effectiveness as a teacher is based on implementation, evaluation of student work, student perceptions, and, when appropriate, course design.

Implementation is primarily evaluated by peer assessment, which considers whether the candidate cultivates a stimulating environment that effectively uses students’ time to stimulate learning, creative thinking, and analytical skill development; and, CIF evaluations, particularly components that measures Stimulation of Learning, the reported Degree of Intellectual Challenge, and the reported Time Studying Outside of Class.

Evaluation of student work is primarily assessed by peer assessment, which determines whether appropriate and rigorous standards are employed to evaluate student work toward achievement of the course learning goals and whether proper feedback is provided to students.

Student Perceptions are primarily evaluated by CIF evaluations, particularly the Composite score, evaluated in light of all of the characteristics of the course, including the type of course, enrollment, historical student perceptions, and the candidate’s proactive revisions to the course presentation in response to the previous CIF reports. Emphasis is placed on the complete record of scores as opposed to scores from any individual course offering.

Course Design, when considered, is primarily evaluated by peer assessment, both annually and cumulatively, to determine if the learning goals are meaningful and clearly articulated and if the content is rigorous, current, and relevant, and CIF evaluations, particularly components that measure Clarity and Organization.
A candidate must demonstrate a continual interest in students. AME considers effectiveness in teaching as the primary measure of interest in the students. For cases in which a candidate has been requested to do so, interest in students is also evaluated by a willingness to advise individual students or student organizations. Such a willingness may be reported by the Department Chair. Effectiveness in advising individual students and student organizations is determined by peer assessment and may involve obtaining feedback from advisees and the student organizations the candidate advises.

**Service to the Profession and University**

The Department expects a candidate to have demonstrated a willingness to serve the academic unit. This service can be carried out in many ways. Some examples of service include, but are not limited to, the following. A candidate may serve on AME, College and/or University committees, particularly those aligned with the teaching mission of AME, the College, and the University. A candidate can serve the AME educational mission by rigorously studying current trends in the program and nationwide trends in engineering education in order to inform long-term departmental decision making. A candidate may serve as a formal advisor to AME students and/or student organizations. A candidate may serve through other types of advising, such as formal or informal meetings with prospective and/or current students, writing letters of recommendation, giving talks in the student dormitories and for student organizations, or similar activities. A candidate may mentor other faculty, particularly on teaching aspects of their responsibilities. A candidate may develop and present Kaneb Center teaching workshops. The Department considers designing and teaching new courses as significant service. A candidate may serve through collecting and analyzing data tracking trends in any aspect of AME’s educational mission to inform long-term departmental decision-making. A candidate may serve through contributing to external grants with other faculty serving as the PI in support of educational and/or outreach activities within the Department, College, and/or University. A candidate may also serve through engaging in scholarship in engineering education by publishing conference and/or journal papers, and/or holding leadership positions in the American Society of Engineering Education (ASEE) or other similar professional societies.

A necessary form of service is a candidate’s willingness to engage in professional development, which can be manifested through a variety of means, including, but not limited to, the following. A candidate may participate in meetings of the ASEE or other similar professional societies. A candidate may participate in Kaneb Center and/or other teaching development activities. A candidate may utilize University resources to improve effectiveness in a particular course, such as mid-course evaluations or extended evaluations in a course by the Kaneb Center and the digital tools for the classroom provided by the Office of Information Technologies. A candidate may utilize external community and/or industry engagement to improve course content. A candidate may publish journal or conference papers and/or popular media articles related to engineering education. A candidate may also lead external grant writing efforts as the PI to secure funds for educational and/or outreach activities.

A candidate must make an annual report to the Department summarizing the year’s activities. This serves as a candidate’s opportunity to highlight activities that contribute to growth in professional knowledge and maturity and to communicate the candidate’s goals and/or concerns related to professional development.
A candidate must demonstrate a salutary influence on colleagues and students. This is assessed by the Department Chair and CRPT through a discussion with AME faculty and students. Salutary influence on students is primarily evaluated through teaching effectiveness. A candidate’s standing among colleagues is assessed by the Department Chair and the CRPT through a discussion with the AME faculty.

Approved by the AME Faculty: January 16, 2020
Appendix D

University of Notre Dame

Department of Aerospace and Mechanical Engineering

Criteria and Standards for Reappointment, Promotion and Tenure for Tenured and Tenure-Track Faculty

Criteria and Standards for Reappointment to Assistant Professor:

Three primary criteria are considered during the evaluation of the candidate’s record: Research/Scholarship, Teaching/Mentoring, and Service to the Profession/University. Elements associated with each criterion are indicated below. The overall assessment of the candidate is based upon achievements associated with each of the elements with respect to the standards.

Research and Scholarship

The Department expects the candidate to have begun making contributions to his/her field(s) of research. Specifically, the candidate is expected to have initiated an independent research program that addresses important problems and is positioned to make an impact in the near future. Evaluation of the quality of a research program in this regard is based on scholarly works, intellectual property (when appropriate), applications for and attainment of research funding, and infrastructure development (when appropriate). Because the fields of aerospace and mechanical engineering are extremely broad, though, no single standard in any of these categories is universally applicable to all candidates. The CRPT and the department chair objectively weigh the contributions in each area, emphasizing the level of research quality and productivity at the time of reappointment evaluation and the likelihood that the candidate’s record will continue to grow in quality and quantity to meet the requirements for tenure and promotion at the time of obligatory promotion evaluation (or sooner, as appropriate).

At the time of reappointment evaluation, the candidate should have produced scholarly works that reflect accomplishments as an independent researcher at Notre Dame. Scholarly works include journal papers, conference/workshop/symposia papers, books, book chapters, monographs and invited lectures at conferences, other academic institutions, and/or research organizations. In most sub-disciplines of aerospace and mechanical engineering, papers in highly-regarded refereed journals are expected, but well-placed conference proceedings may be the norm in some fields. A candidate’s record is evaluated in terms of both the quantity and quality of his/her scholarly publications and how those two characteristics collectively establish the overall impact of the publications. Quantity is assessed primarily to determine if the candidate’s activities during the initial appointment period have built sufficient momentum that his/her record will be adequate to establish the candidate as someone who addresses and answers important problems in his/her field at the time of obligatory promotion evaluation. It is recognized that the candidate’s publication record at the time of reappointment evaluation is likely to reflect a transition from papers generated from the candidate’s prior academic appointment (co-authored with mentees at another institution and/or previous research advisors, for example) to papers co-authored with faculty colleagues or external collaborators, single-author papers, and papers with ND mentee co-authors from research conducted as an independent researcher. As editorial practices, including referee review and publication times, can vary significantly between publishers and journals, some publications may
be in the editorial process at the time of reappointment; these may also be considered as appropriate. Critical to establishing the candidate’s growing independence as a researcher at the time of reappointment evaluation requires an evaluative emphasis on those publications for which the candidate or one of his/her mentees is the first or corresponding author, or intellectual lead of the research reported. For reappointment evaluation, quality and impact of the publications are judged by internal peer assessment from tenured faculty.

Intellectual property is primarily taken to mean pending or awarded patents, as well as technology that may be licensed from the University. When appropriate, a candidate’s research program is evaluated in terms of the quantity, quality, and overall impact of his/her intellectual property, similar to the internal and quantitative evaluations of scholarly publications. In this way, a high quality pending or awarded patent or licensed technology would be viewed as at least equivalent in significance to a scholarly publication.

Research funding includes funds secured from both internal and external sources. At the time of reappointment evaluation, the candidate is expected to have made significant efforts to secure research funding from external sources to support his/her research activities. These funds should include acquisition of laboratory equipment/supplies and/or support of an appropriate number of graduate students and, as appropriate, post-doctoral researchers and research scientists, at a level that would enable consistent scholarly productivity as described above. It is common that research proposals and grants will include multiple co-investigators. In cases in which the candidate’s funding mechanisms are primarily collaborative, the candidate’s individual intellectual contributions should be clearly enough defined to establish his/her unique research identity. Evidence of success in attaining external, peer-reviewed research funding is important for evaluating the candidate’s growing independence as a researcher and the likelihood that he/she will continue to build funding momentum at a sufficient level to achieve the research productivity expected at the time of obligatory promotion evaluation (or sooner, as appropriate).

Infrastructure development is taken to mean unique physical facilities, pieces of equipment, computer codes, or other novel entities created or modified by the candidate (and his/her research group) as an independent researcher that enable him/her to conduct research. The significance of infrastructure is evaluated by 1) internal peer assessment from tenured faculty and 2) metrics related to the utility of the infrastructure (publications or intellectual property related to its development or involving its use, external research funding secured for its development or use, frequency with which other researchers request to use it, etc.). In the case that infrastructure is co-developed by peers of the candidate, it is expected that the candidate’s individual contributions will be sufficiently distinguishable to establish his/her unique research identity.

Teaching and Mentoring

The Department expects the candidate to have begun making contributions to teaching at both the undergraduate and graduate levels. Specifically at the undergraduate level, the candidate is expected to have, as the instructor of record, shown the promise to effectively present multiple offerings of a course that significantly contributes to one or both of the undergraduate programs. At the graduate level, the candidate is expected to have, as the instructor of record, shown the promise to effectively present at least one offering of a course (or courses) that attracted the enrollment of graduate students from the Department. Contributions to teaching may also include course development at any level. Course development refers to either development of a new course
(or courses) or instituting notable pedagogical or structural enhancements to an existing course (or courses) at either the undergraduate or graduate level.

Evaluating the effectiveness of a candidate’s instruction at both the undergraduate and graduate levels is based on course design, implementation, evaluation of student work, and student perceptions. In this regard, the Department highly values a candidate’s efforts to improve his/her teaching effectiveness in subsequent offerings of courses in response to both peer and student assessments, as well as to pursue professional development opportunities (workshops, on-campus resources etc.) before or during reappointment evaluation.

Course design is particularly emphasized for newly developed courses and elective courses for which the candidate has more flexibility in the course content. The Department encourages originality and experimentation in presenting course material across the curricula, though, so novel contributions to core courses are also highly valued. Course design is primarily evaluated by peer assessment from tenured faculty, both annually and cumulatively, to determine if the learning goals are meaningful and clearly articulated and if the content is rigorous, current, and relevant. Such peer assessments are supplemented by student assessments from the CIF evaluations, particularly the Organization, Preparation, Clarity, and Fairness scores that measure Clarity and Organization.

Implementation is primarily evaluated by peer assessment from tenured faculty, particularly those who annually attend one or more of the course meetings. Evaluation considers whether the candidate cultivates a stimulating environment that effectively uses students’ time to stimulate learning, creative thinking, and analytical skill development. Where appropriate, student enrollment and performance in subsequent (elective and required) courses and/or undergraduate research opportunities is used to help evaluate whether students develop the required knowledge and skills in the course and whether some develop a genuine interest in the material. Peer assessments are supplemented by student assessments from the CIF evaluations, particularly the Develop Mastery, Stimulate Interest, and Promote Thinking scores that measure Stimulation of Learning, the reported Degree of Intellectual Challenge, and the reported Time Studying Outside of Class.

Evaluation of student work is primarily evaluated by peer assessment from tenured faculty. These assessments determine whether appropriate and rigorous standards are employed to evaluate student work toward achievement of the course learning goals and whether proper feedback is provided to students. Such peer assessments are supplemented by student assessments from the CIF evaluations, particularly the Resources, Assignments, and Feedback scores that measure Guidance and Support.

Student perceptions are evaluated by consideration of all of the CIF scores, particularly the Composite score, and all of the characteristics of the course, including the type of course, enrollment, historical student perceptions, and the candidate’s proactive revisions to the course presentation in response to the previous CIF reports. Emphasis is placed on the complete record of scores as opposed to scores from any individual course offering. In some cases, the Department may, with the candidate’s permission, survey students/alumni who have completed the course to determine if/how their perceptions have changed with time.

In terms of mentoring, the Department expects the candidate to begin making significant contributions to the advising and mentoring of both graduate and undergraduate students outside the normal responsibilities pertaining to any specific course. At the graduate level, mentoring is
evaluated by peer assessment of the candidate’s participation in the evaluation, recruitment, and development of graduate students. Graduate student mentoring can be most effectively evaluated by the candidate successfully advising students along the milestones required for successful completion of the Ph.D. degree (including completion of requirements for degree such as the Qualifying examination, co-authoring scholarly publications with these students, student participation in conferences and meetings, and so forth), serving on the committees of graduate students advised by other faculty, and contributing to the evaluation of graduate students via Qualifying and Candidacy examinations. At the undergraduate level, mentoring is evaluated by peer assessment of the candidate’s participation in regular undergraduate advising and other engagement with undergraduates through activities such as, but not limited to, advising undergraduate researchers, undergraduate publications and/or theses, student clubs, and entries into national engineering competitions.

Service to the Profession and University

The Department expects the candidate to have engaged with and made contributions to his/her research community beyond the technical research and scholarship contributions evaluated as described above. Baseline engagement is expected to include membership in the professional society or societies appropriate to the candidate’s research activities. Contributions to the research community can be demonstrated by reviewing journal and conference paper submissions, reviewing proposals to funding agencies, giving presentations at conferences or workshops, chairing sessions at conferences or workshops, assisting with the organization of conferences or workshops, participating on technical committees, and other service-oriented activities.

The Department expects the candidate to have begun engaging with the intellectual and academic life of the community of scholars within the university beyond the research and teaching contributions evaluated as described above. Expected engagement prior to reappointment evaluation includes regular participation in departmental meetings, seminars, and hiring activities. Additional contributions to the university community can be demonstrated by serving on formal committees, participating in undergraduate and graduate research forums, meeting with prospective undergraduates, giving laboratory tours or research presentations to visitors, participating in orientation events, and other service-oriented activities. In addition to the formal mentoring expectations described above, informal mentoring is also assessed and valued as a service contribution, particularly in cases in which a number of undergraduates gravitate to the candidate as a mentor because of his/her skills, background, gender, ethnicity, etc. The candidate is highly encouraged to appropriately document any informal service activities in which he/she engages. The Department expects the candidate’s internal service contributions to be rather modest prior to reappointment evaluation, since greater emphasis is placed on research, teaching, and service to the research community at this stage of his/her career. Overall, the candidate should have demonstrated the ability to effectively engage with peers, students, and staff in constructive ways that enhance the learning environment and the Notre Dame community.

Approved by the AME Faculty: February 13, 2020
Criteria and Standards for Promotion to Associate Professor with Tenure:

Three primary criteria are considered during the evaluation of the candidate’s record: Research/Scholarship, Teaching/Mentoring, and Service to the Profession/University. Elements associated with each criterion are indicated below. The overall assessment of the candidate is based upon achievements associated with each of the elements with respect to the standards.

Research and Scholarship

The Department expects the candidate to have made significant contributions to his/her field(s) of research. Specifically, the candidate is expected to have developed an independent research program that addresses important problems, has had a positive influence on those problems, and is positioned to continue having impact on important problems in the future. Evaluation of the quality of a research program in this regard is based on scholarly works, intellectual property (when appropriate), research funding, and infrastructure development (when appropriate). Because the fields of aerospace and mechanical engineering are extremely broad, though, no single standard in any of these categories is universally applicable to all candidates. The CRPT the department chair objectively weigh the contributions in each area, emphasizing the level of research quality and productivity at the time of application for tenure and the likelihood of sustained research quality and productivity based on the established history in each area.

Scholarly works include journal papers, conference/workshop/symposia papers, books, book chapters, monographs and invited lectures at conferences, other academic institutions, and/or research organizations. In most sub-disciplines of aerospace and mechanical engineering, papers in highly regarded refereed journals are expected, but, well-placed conference proceedings may be the norm in some fields. A candidate’s record is evaluated in terms of both the quantity and quality of his/her scholarly publications and how those two characteristics collectively establish the overall impact of the publications. Quantity is assessed primarily to determine if the number of publications is adequate to establish the candidate as someone who addresses and answers important problems in his/her field. The record is likely to be constructed of a spectrum of publications, potentially including papers from the candidate’s prior academic appointment (co-authored with mentees at another institution and/or previous research advisors, for example), papers co-authored with faculty colleagues or external collaborators based on research conducted as an independent researcher, and single-author papers based on research as an independent researcher, but the record must include papers with mentee co-authors. Establishing the candidate’s independence as a researcher at the time of promotion and tenure evaluation requires an evaluative emphasis on those publications for which the candidate or one of his/her mentees is the first or corresponding author, or intellectual lead of the research reported. Quality is judged by 1) internal peer assessment from tenured faculty and 2) external assessment from leaders in the field, both of which will address the quality of the publication venues. Likewise, the overall impact of the publications is evaluated by 1) internal peer assessment from tenured faculty and 2) external assessment from leaders in the field, both of which will be informed by metrics related to the utility of the work to other researchers (citations within major citation databases, downloads/reads, etc.).

Intellectual property is primarily taken to mean pending or awarded patents, as well as technology that may be licensed from the University. When appropriate, a candidate’s research program is evaluated in terms of the quantity, quality, and overall impact of his/her intellectual property, similar to the internal, external, and quantitative evaluations of scholarly publications. In this way,
a high quality pending or awarded patent or licensed technology would be viewed as at least equivalent in significance to a scholarly publication.

Research funding includes funds secured from both internal and external sources. The candidate is expected to acquire the research funds necessary to sustain his/her research activities. These funds should include acquisition of laboratory equipment/supplies and/or support of an appropriate number of graduate students and, as appropriate, post-doctoral researchers and research scientists, at a level that will enable consistent scholarly productivity as described above. It is common that grants will include multiple co-investigators. In cases in which the candidate’s funding mechanisms are primarily collaborative, the candidate’s individual intellectual contributions should be clearly enough defined to establish his/her unique research identity.

Infrastructure development is taken to mean unique physical facilities, pieces of equipment, computer codes, or other novel entities created or modified by the candidate (and his/her research group) as an independent researcher that enable him/her to conduct research. The significance of infrastructure is evaluated by 1) internal peer assessment from tenured faculty, 2) external assessment from leaders in the field, 3) metrics related to the utility of the infrastructure (publications or intellectual property related to its development or involving its use, external research funding secured for its development or use, frequency with which other researchers request to use it, etc.), and 4) securing external funding for the development or purchase of the equipment. In the case that infrastructure is co-developed by peers of the candidate, it is expected that the candidate’s individual contributions will be sufficiently distinguishable to establish his/her unique research identity.

**Teaching and Mentoring**

The Department expects the candidate to have made significant contributions to teaching at both the undergraduate and graduate levels and to course development at any level. Specifically at the undergraduate level, the candidate is expected to have, as the instructor of record, effectively presented multiple offerings of a course that significantly contributes to one or both of the undergraduate programs. At the graduate level, the candidate is expected to have, as the instructor of record, effectively presented multiple offerings of a course (or courses) that attracted the enrollment of graduate students from the Department. Course development refers to either development of a new course (or courses) or instituting notable pedagogical or structural enhancements to an existing course (or courses) at either the undergraduate or graduate level.

Evaluating the effectiveness of a candidate’s instruction at both the undergraduate and graduate levels is based on course design, implementation, evaluation of student work, and student perceptions. In this regard, the Department highly values a candidate’s efforts to improve his/her teaching effectiveness in subsequent offerings of courses in response to both peer and student assessments, as well as to pursue professional development opportunities (workshops, on-campus resources etc.).

Course design is particularly emphasized for newly developed courses and elective courses for which the candidate has more flexibility in the course content. The Department encourages originality and experimentation in presenting course material across the curricula, though, so novel contributions to core courses are also highly valued. Course design is primarily evaluated by peer assessment from tenured faculty, both annually and cumulatively, to determine if the learning goals are meaningful and clearly articulated and if the content is rigorous, current, and relevant. Such
peer assessments are supplemented by student assessments from the CIF evaluations, particularly the Organization, Preparation, Clarity, and Fairness scores that measure Clarity and Organization.

Implementation is primarily evaluated by peer assessment from tenured faculty, particularly those who annually attend one or more of the course meetings. Evaluation considers whether the candidate cultivates a stimulating environment that effectively uses students’ time to stimulate learning, creative thinking, and analytical skill development. Where appropriate, student enrollment and performance in subsequent (elective and required) courses and undergraduate research opportunities is used to help evaluate whether students develop the required knowledge and skills in the course and whether some develop a genuine interest in the material. Peer assessments are supplemented by student assessments from the CIF evaluations, particularly the Develop Mastery, Stimulate Interest, and Promote Thinking scores that measure Stimulation of Learning, the reported Degree of Intellectual Challenge, and the reported Time Studying Outside of Class.

Evaluation of student work is primarily evaluated by peer assessment from tenured faculty. These assessments determine whether appropriate and rigorous standards are employed to evaluate student work toward achievement of the course learning goals and whether proper feedback is provided to students. Such peer assessments are supplemented by student assessments from the CIF evaluations, particularly the Resources, Assignments, and Feedback scores that measure Guidance and Support.

Student perceptions are evaluated by consideration of all of the CIF scores, particularly the Composite score, and all of the characteristics of the course, including the type of course, enrollment, historical student perceptions, and the candidate’s proactive revisions to the course presentation in response to the previous CIF reports. Emphasis is placed on the complete record of scores as opposed to scores from any individual course offering. In some cases, the Department may, with the candidate’s permission, survey students/alumni who have completed the course to determine if/how their perceptions have changed with time.

In terms of mentoring, the Department expects the candidate to have made significant contributions to the advising and mentoring of both graduate and undergraduate students outside the normal responsibilities pertaining to any specific course. At the graduate level, mentoring is evaluated by peer assessment of the candidate’s participation in the evaluation, recruitment, and development of graduate students. Graduate student mentoring can be most effectively evaluated by the candidate successfully advising students through the Ph.D. degree (including completion of requirements for degree such as the Qualifying examination, co-authoring scholarly publications with these students, student participation in conferences and meetings, and so forth), serving on the committees of graduate students advised by other faculty, and contributing to the evaluation of graduate students via Qualifying and Candidacy examinations. At the undergraduate level, mentoring is evaluated by peer assessment of the candidate’s participation in regular undergraduate advising and other engagement with undergraduates through activities such as, but not limited to, advising undergraduate researchers, undergraduate publications and/or theses, student clubs, and entries into national engineering competitions.

Service to the Profession and University

The Department expects the candidate to have engaged with and made contributions to his/her research community beyond the technical research and scholarship contributions evaluated as
described above. Baseline engagement is expected to include membership in the professional society or societies appropriate to the candidate’s research activities. Contributions to the research community can be demonstrated by reviewing journal and conference paper submissions, reviewing proposals to funding agencies, giving presentations at conferences or workshops, chairing sessions at conferences or workshops, assisting with the organization of conferences or workshops, participating on technical committees, and other service-oriented activities.

The Department expects the candidate to have engaged with and made contributions to the intellectual and academic life of the community of scholars within the university beyond the research and teaching contributions evaluated as described above. Baseline engagement should include regular participation in departmental meetings, seminars, and hiring activities. Additional contributions to the university community can be demonstrated by serving on formal committees, participating in undergraduate and graduate research forums, meeting with prospective undergraduates, giving laboratory tours or research presentations to visitors, participating in orientation events, and other service-oriented activities. In addition to the formal mentoring expectations described above, informal mentoring is also assessed and valued, particularly in cases in which a number of undergraduates gravitate to the candidate as a mentor because of his/her skills, background, gender, ethnicity, etc. The candidate is highly encouraged to appropriately document any informal activities service activities that he/she engages in. The Department expects the candidate’s internal service contributions to be relatively modest since greater emphasis is placed on research, teaching, and service to the research community at this stage of his/her career. Overall, the candidate should have demonstrated the ability to effectively engage with peers, students, and staff in constructive ways that enhance the learning environment and the Notre Dame community.

Approved by the AME Faculty: February 13, 2020

Criteria and Standards for Promotion to Professor:

Three primary criteria are considered for promotion to the rank of Professor in the Department of Aerospace and Mechanical Engineering: Research/Scholarship, Teaching/Mentoring, and Service to the Profession/University. Promotion to the rank of Professor requires that one should maintain excellence in teaching and gain widespread recognition as a scholar. The overall assessment of the candidate is based upon achievements associated with each of the above elements with respect to the standards. The balance of activities and performance relative to the standard in each of these three elements will depend on the individual candidate and his/her career path as a scholar and educator. However, all candidates for promotion to Professor must have high-quality contributions relative to the standards of each element that clearly signify that he/she has attained national or international recognition in his/her field, the potential for which was the basis of his/her previous promotion and tenure.

Research and Scholarship

Scholarly accomplishments, as evaluated by an internal peer review and an external review by leaders in the candidate’s field, should indicate that the candidate’s research addresses important problems in the field, is characterized by consistent high quality, has gained widespread
recognition as having had a positive influence on the issues addressed, and is positioned to continue having impact on important problems in the future. Evaluation of the quality, visibility and impact of a research program in this regard is based on a range of metrics, including, but not limited to 1) **scholarly publications** (journal papers, conference/workshop/symposia papers, books, book chapters, monographs and conference presentations), 2) **intellectual property** (pending or awarded patents; when appropriate), 3) **research funding** (funds secured from both internal and external sources necessary to sustain his/her research activities), 4) **external recognitions** (internal and external awards, invited lectures, journal editorships, leadership in relevant external societies, etc.), and 5) **infrastructure development** (unique physical facilities, pieces of equipment, computer codes, or other novel entities created or modified by the candidate (and his/her research group) while at ND that enable him/her to conduct research; when appropriate).

Because the fields of aerospace and mechanical engineering are extremely broad, though, no single standard in any of these categories is universally applicable to all candidates. Thus, the metric of evaluation is that the candidate’s scholarly productivity is consistent with the candidate’s specific field at top-tier research universities. This assessment is made based upon the accomplishments reflected in the candidate’s record and as evaluated by 1) an internal peer assessment and 2) external assessment by leaders in the field, both of which will be informed by metrics related to the utility of the scholarly accomplishments (citations within major citation databases, downloads/reads, leadership of larger, collaborative research projects, etc.). The Department recognizes that, in cases where research is primarily sponsored by industry and/or Department of Defense contracts, publication may be limited due to contractual or intellectual property obligations. In such cases, the CRPT will identify other metrics or achievements that can be used to evaluate the quality and quantity of the scholarly accomplishments, including the development of new research facilities, translation of research accomplishments to industrial and/or commercial uses, and/or long-standing industrial partnerships.

**Teaching and Mentoring**

The Department expects the candidate to have continued making significant contributions to teaching at both the undergraduate and graduate levels and to have maintained excellence in this regard since the previous promotion. Evaluation of effective instruction at both the undergraduate and graduate levels is based on course design, implementation, evaluation of student work, and student perceptions. The means of evaluation are identical to those employed for the promotion to Associate Professor with tenure, but with more emphasis on leadership and curriculum development relative to classroom evaluations. At this level, the Department still values a candidate’s willingness to improve his/her teaching effectiveness in response to both peer and student assessments, as well as to pursue professional development opportunities (workshops, on-campus resources etc.). With candidates for promotion to Professor, the Department also highly values other contributions to meet the needs of its instructional mission that sometimes differ from the contributions expected of untenured faculty. These may include, but are not limited to, teaching multiple undergraduate courses that contribute to one or both of the degree programs, teaching courses at the periphery of the candidate’s expertise, developing new courses, instructional mentoring and/or peer evaluation of untenured faculty members, and/or any other activity that improves the educational experience of the undergraduate and graduate students in the Department. Candidates for promotion to Professor should take an active role in evaluating the effectiveness of the curriculum and contributing to continuous improvement through restructuring
existing courses, proposing new course sequences, or developing and/or implementing new teaching and learning pedagogies.

In terms of mentoring, the Department expects the candidate to have continued making significant contributions to advising and mentoring both graduate and undergraduate students since the last promotion and to have begun serving as a mentor to untenured faculty members. At the graduate level, mentoring is evaluated by peer assessment of the candidate’s participation in the evaluation, recruitment, and development of graduate students. Graduate student mentoring can be most effectively evaluated by the candidate successfully advising students through the Ph.D. degree (including co-authoring scholarly publications with these students), serving on the committees of graduate students advised by other faculty, and contributing to the evaluation of graduate students via Qualifying and Candidacy examinations. At the undergraduate level, mentoring is evaluated by peer assessment of the candidate’s participation in regular undergraduate advising and other engagement with undergraduates through activities such as, but not limited to, advising undergraduate researchers, undergraduate publications and/or theses, student clubs, and entries into national engineering competitions. Informal mentoring is also assessed and valued, particularly in cases in which a number of undergraduates gravitate to the candidate as a mentor because of his/her skills, background, gender, ethnicity, etc.

**Service to the Profession and University**

Candidates for promotion to Professor should have engaged with and made significant contributions to his/her research community beyond the technical research and scholarship contributions evaluated as described above. Outside of the external service expectations associated with his/her previous promotion, the candidate should have attained stature as a leader in his/her research community as demonstrated by, but not limited to, journal editorships, sustained participation in technical committees or other society-related activities, leadership in a scholarly society and/or technical committee, conference organization, regular contributions as a reviewer for journals and/or external funding agencies, and/or service on boards or as an advisor for projects that are related to the candidate’s professional status.

The Department expects the candidate to have engaged with and made significant contributions to the intellectual and academic life of the community of scholars within the university beyond the research and teaching contributions evaluated as described above. The candidate should have actively participated in departmental, college and/or university governance through activities such as service on committees and/or engaged in leadership in the research or educational enterprises, service as a research and/or teaching mentor for untenured faculty members, and other service-oriented activities that demonstrate leadership. Exceptional levels of service could include serving as director of undergraduate or graduate studies in the Department, substantially contributing to undergraduate program evaluation and continuous improvement processes, and leading a large-scale research, educational, or outreach initiative. Overall, the candidate should have demonstrated the ability to effectively engage with peers, students, and staff in constructive ways that enhance the teaching and research environment and the Notre Dame community.

*Approved by the AME Faculty: May 2, 2019*