

PhD Chemical Engineering
MS Chemical Engineering

Bylaws

Gene and Linda Voiland School of Chemical Engineering and Bioengineering
College of Engineering and Architecture

Approved by Voiland School faculty on 10/9/2012 (initial version)

Faculty Senate Approval Date: October 30, 2012

I) Objectives

- A. Degrees offered: PhD Chemical Engineering, MS Chemical Engineering
- B. Discipline: Edgar, et al.¹ provide a succinct description of chemical engineering: “chemical engineers seek to understand, manipulate, and control the molecular basis of matter, and the molecular-level processes (physical, chemical, and biological) that underlie observed phenomena in nature and technology. The chemical engineer leverages knowledge of molecular processes across multiple length and time scales to synthesize and manipulate complex systems that encompass both processes and products.” The National Research Council further clarifies the goal of chemical engineering research when noting that “The chemical sciences will unlock our ability to understand the mysteries of our world—from new synthesis and catalysis to life itself. The chemical sciences will produce answers to our future energy needs and environmental challenges. The chemical sciences will produce the materials of the future, and they will produce practical biotechnology from biology. The central challenge will be to create new understanding of our existing and potential physical world, and to use that understanding to produce a better world.”²
- C. Mission of the Program: To educate and develop leaders who leverage the knowledge of molecular processes to synthesize and manipulate complex processes and enable new products.

II) Membership

- A. Graduate Faculty within the Chemical Engineering program may be WSU tenured and tenure-track faculty, WSU non-tenure track faculty, or WSU affiliate faculty, subject to the limitations and definitions in this document. All Graduate Faculty must be “Initial Graduate Faculty” (listed in Section VIII of this document) or subsequently approved as Graduate Faculty through the process outlined below:

¹ Edgar, T.F., B.A. Ogunnaike, J.J. Downs, K.R. Muske, and B. W. Bequette, “Renovating the undergraduate process control course”, *Computers and Chemical Engineering* **30**:1749-1762, 2006

² National Research Council Committee on Challenges for Chemical Sciences in the 21st Century, Board on Chemical Sciences and Technology, “Beyond the Molecular Frontier: Challenges for Chemistry and Chemical Engineering”, National Academies Press, Washington, DC, 2003.

- B. Disciplinary Expertise
 - i. Members of the Chemical Engineering Graduate Faculty are expected to have a PhD or equivalent doctoral-level degree in a field related to Chemical Engineering. In addition, they must have demonstrated disciplinary expertise, relevant professional accomplishments, and a demonstrated interest and experience in mentoring and teaching chemical engineering graduate students to advance the mission of the Chemical Engineering graduate programs, as defined above in section I).
 - ii. Chemical Engineering Graduate Faculty must be actively involved in Chemical Engineering research, as defined in section I) above. Evidence for such involvement includes recent external grant or contract support, related peer-reviewed publications within the last 5 years, graduate student mentoring within the last 5 years, teaching of relevant graduate level courses, or other relevant professional accomplishments.
- C. Graduate Faculty Participation
 - i. Graduate Faculty participation in Chemical Engineering is independent and separate from academic department, school, or college affiliations.
 - ii. All active members of the Graduate Faculty of Chemical Engineering programs are eligible to vote on program issues.
- D. WSU Campus Participation
 - i. The doctoral and master of science degrees in Chemical Engineering are offered through the Pullman campus of Washington State University as approved and authorized by the Higher Education Coordinating Board (HECB) of Washington State. The campuses at Vancouver, Spokane and Tri-Cities support these programs but are not approved or authorized to directly offer the degrees at individual campuses.
 - ii. All Voiland School tenured and tenure track faculty at all campuses, agricultural extension sites, and other affiliated university sites may participate equally in the Chemical Engineering program as supporting site faculty with full program rights and responsibilities. As such they are entitled and expected to act as chair, co-chair, or member of graduate student committees; teach graduate courses; supervise research; and act as a program committee member.
 - iii. Approved tenured and tenure track Graduate Faculty in other Washington State University departments or programs are entitled to act as a member of graduate student committees, teach graduate courses in Chemical Engineering, or act as a co-chair of a graduate student committee. They must hold an approved affiliate member status in the Voiland School to act as chair of a graduate student committee and supervise research.
- E. Approved tenured and tenure track Faculty in the University of Idaho Department of Chemical and Materials Engineering are entitled to act as members of graduate student committees and teach graduate Chemical Engineering courses. Such faculty must hold an approved affiliate member status in the Voiland School to act as chair or co-chair of a graduate student committee and supervise research.

- F. Non-tenure Track Graduate Faculty
- i. Internal to WSU: Non-tenure track Graduate Faculty internal to WSU include research, clinical, and affiliate faculty. This category of Graduate Faculty also includes USDA-ARS researchers. These researchers are classified as WSU adjunct faculty but may function in the same roles as WSU tenured and tenure-track faculty. USDA-ARS faculty are entitled to act as chair, co-chair, or member of graduate student committees; teach graduate courses; supervise research; and act as a program committee member. Other non-tenure track faculty internal to WSU (research, clinical, affiliate faculty) may be active Chemical Engineering Graduate Faculty and are entitled to act as chair, co-chair or member of graduate student committees; teach graduate courses; and supervise research.
 - ii. External to WSU. Professionals who are not WSU faculty, such as scientists/engineers at national laboratories, professionals from government or industry, etc., may be granted Chemical Engineering Graduate Faculty status if they are first officially approved as WSU adjunct faculty. Adjunct faculty who are approved as active Chemical Engineering Graduate Faculty are entitled to act as a member of graduate student committees, teach graduate courses, supervise research and serve as student committee chair or co-chair. This status does not entitle adjunct faculty to serve on any other departmental committee without approval by the Voiland School director.
- G. External Individual Committee Members: Individuals not officially participating as Chemical Engineering Graduate Faculty may be approved by the school director to serve as a thesis/dissertation committee member for an individual student on a case-by-case basis when such membership is recommended by at least one member of the Chemical Engineering Graduate Faculty. Such individuals, however, may not serve as committee chairs or co-chairs. With approval of the School Director, the nomination (with accompanying CV or other documentation of expertise) will be forwarded to the Dean of the Graduate School for final approval.

III) Application for Membership

- A. Initial Chemical Engineering Graduate Faculty are listed in Section VIII of this document and have been approved by the Voiland School's existing faculty, the Voiland School Director, and the Dean of the Graduate School.
- B. Candidates for Graduate Faculty participation within Chemical Engineering should be nominated by an existing Chemical Engineering Graduate Faculty member or may self-nominate. The nominations should include a letter of nomination, and curriculum vitae for the nominee. The School Director will circulate application materials to all active Graduate Faculty.
- C. Once nominated, the nominee will meet with interested Chemical Engineering Graduate Faculty and provide a seminar describing his/her work that advances chemical engineering, as defined in section I) above. After the completion of these meetings and seminar, the Chemical Engineering Graduate Faculty will vote to approve Chemical Engineering Graduate Faculty status.

- D. In addition to a commitment to maintain the highest standards of mentoring for graduate students, anticipated contributions or qualifications for all successful Graduate Faculty include one or more of the following:
 - i. History or reasonable expectation of an active, funded research program that can plausibly be relied upon as the source of continuing support of Chemical Engineering graduate students.
 - ii. History of or willingness to participate as appropriate in administrative, teaching, and other functions of the Chemical Engineering graduate program. This may include serving on graduate program administrative committees; serving as a thesis or dissertation committee member or chair; or providing graduate level instruction.
 - iii. History of publication of peer-reviewed manuscripts in archival, chemical engineering journals that report results of work that advances chemical engineering, as defined in section I).
- E. Acceptance as Graduate Faculty requires a positive vote from a majority of faculty who respond to the vote.

IV) Continuation of Active Membership

- A. Graduate Faculty appointments to Chemical Engineering will be reviewed yearly as part of the annual review process conducted by the School Director. Each Graduate Faculty member will be evaluated for contributions to graduate instruction, research, and teaching. Contributions to the Chemical Engineering program shall be a requirement for continued active membership. Contributions may take the form of:
 - i. Committee chair, co-chair or member of Chemical Engineering graduate student committees
 - ii. Teaching or co-teaching a graduate course in Chemical Engineering
 - iii. Supervising graduate student research
 - iv. Serving in the administrative and committee structure of Chemical Engineering

The Director of the Chemical Engineering Graduate Program is responsible for submitting an updated list of active and inactive Graduate Faculty participants to the Dean of the Graduate School for approval annually.
- B. All individuals with tenured or tenure track appointments in the Voiland School will be considered active graduate faculty irrespective of clauses listed below.
- C. Faculty who do not make any of the contributions described in IV)A above for three consecutive years will be designated as inactive Chemical Engineering Graduate Faculty. Inactive Graduate Faculty do not have voting rights. Initiation of any of these activities described in IV)A will result in restoration of active Graduate Faculty designation.
- D. Discontinuation of Membership

Upon request of an active or inactive Graduate Faculty member, that individual membership will be discontinued. If that individual's research and graduate training activity should change, they may reapply for Graduate Faculty participation at any time.

E. Membership Appeal Process

Faculty appeal of any membership decision in Chemical Engineering must be made in writing to the Voiland School's Director within 30 calendar days of the decision. The appeal is determined by a majority vote of all Chemical Engineering Graduate Faculty. Final written appeal may be made to the Dean of the Graduate School within 30 calendar days of the Chemical Engineering Graduate Faculty vote.

V) Administration

A. Administration of the program and its activities is vested in the Voiland School Director with advice from the Chemical Engineering Graduate Studies Committee. In this regard, the Voiland School Director will:

- i. Provide overall academic leadership for Chemical Engineering
- ii. Develop and implement policies for Chemical Engineering
- iii. Represent the interests of Chemical Engineering to the campus and University administrators
- iv. Call and preside at meetings of the Chemical Engineering Graduate Faculty
- v. Be responsible for coordinating all Chemical Engineering administrative matters within the Graduate School
- vi. Manage the Voiland School budgets
- vii. Submit course or curriculum change or approval forms
- viii. Submit bylaws changes or approval forms
- ix. Be responsible for the accuracy of all publications related to Chemical Engineering including web pages and catalog copy.
- x. Coordinate Chemical Engineering graduate course teaching assignments.
- xi. Supervise the activities of the Chemical Engineering Graduate Studies Committee as they relate to the program.
- xii. Approve departmental recommendation forms.

B. Chemical Engineering Graduate Studies Committee

- i. Coordinates and advises the Voiland School Director in administering Chemical Engineering graduate programs.
- ii. The Graduate Studies Committee shall be composed of 3 to 6 active Chemical Engineering Graduate Faculty members. Each member will be appointed to a fixed, renewable three year term.
- iii. The Committee Chair and the members will be appointed by the School Director.
- iv. The committee shall meet at least once a semester to discuss issues. It may meet more often as needed for special circumstances.
- v. Areas in which the Graduate Studies Committee shall assist and advise the School Director include:
 1. Review, develop and update long-range goals for Chemical Engineering programs and plans for their attainment.
 2. Serve as a sounding board for new ideas, changes, etc. in academic or administrative issues.

3. Provide guidance on administration of the programs.
4. Assist with the Chemical Engineering program assessment process.
5. Assist with recruitment, scholarship applications, graduate awards, graduate student review and exceptions to policy.

VI) Graduate Student Committees

- A. The initial selection, or subsequent changes, of a graduate student's committee shall be determined jointly by the student and the student's advisor in accordance with the policy and procedures outlined in the Chemical Engineering graduate handbook at the time the student first enrolls in the chemical engineering program for which she/he is seeking a degree.
- B. The graduate committee of each student shall have a minimum of three members. A majority of committee members shall be active Chemical Engineering Graduate Faculty. At least two of the committee members must be tenured or tenure-track members of the Voiland School faculty. All committee members must hold a degree of comparable level to the degree sought by the candidate.
- C. As specified in the Graduate School's Policies and Procedures, the performance of each graduate student shall be reviewed at least annually.
- D. In accordance with the Policies and Procedures of the Graduate School at WSU, graduate students are not permitted to serve on the committees of other graduate students.

VII) Quorum

Unless specified otherwise, a quorum for purposes of voting and other decision making is defined as the majority of *active* Chemical Engineering Graduate Faculty. The chemical engineering graduate faculty will meet at least once each academic year, but meet more often if needed. In the event of a tie vote, the issue will be further discussed and another vote may be held.

VIII) Amendments to Program Bylaws

- A. The Program Bylaws document shall be reviewed every fifth year by the Chemical Engineering Graduate Studies Committee and annually by the School Director.
- B. Amendments to the Bylaws may originate from any eligible Chemical Engineering Graduate Faculty Member. Proposed amendments must be forwarded to the Chemical Engineering Graduate Studies Committee and School Director. After discussion by the Chemical Engineering Graduate Studies Committee, amendments shall be forwarded to the Chemical Engineering Graduate Faculty electronically at least 2 weeks prior to the faculty meeting at which the amendments will be discussed and may include a recommendation by the Graduate Studies Committee. Votes on amendments may occur at a faculty meeting or electronically. Amendments to the Chemical Engineering Bylaws require a positive vote from the majority of all active Chemical Engineering Graduate Faculty.
- C. All amendments and revisions must be submitted to the WSU Graduate Studies Committee and Faculty Senate for review and final approval.

IX) Initial Graduate Faculty Participants:

- A. Voiland School Tenured/Tenure Track Faculty
 - i. Abu-Lail, Nehal
 - ii. Ahring, Birgitte

- iii. Beyenal, Haluk
 - iv. Davis, Denny
 - v. Dong, Wenji
 - vi. Ha, Su
 - vii. Ivory, Cornelius F.
 - viii. Kostyukova, Alla
 - ix. Liddell, KNona
 - x. Lin, David
 - xi. McEwen, Jean-Sabin
 - xii. Pate, Edward
 - xiii. Petersen, James N.
 - xiv. Van Wie, Bernard J.
 - xv. Vasavada, Anita
 - xvi. Wang, Yong
 - xvii. Zhang, Xiao
 - xviii. Zollars, Richard L.
- B. WSU Tenure/Tenure Track Faculty with tenure home in other WSU units
- i. Chen, Shulin
 - ii. Garcia-Perez, Manuel
 - iii. Jobson, Tom
 - iv. Kang, ChulHee
 - v. Lamb, Brian
 - vi. Liu, Heping
 - vii. Mount, George
 - viii. VanReken, Timothy
 - ix. Wolcott, Michael
 - x. Xu, Jie
 - xi. Ye, Ping
- C. Non-tenure Track Faculty Internal to WSU
- i. Coppin, Chris
 - ii. Davis, Howard
 - iii. Beyenal, Nurdan
 - iv. Srivastava, Soumya
 - v. Sun, Junming
 - vi. Thiessen, David
- D. Non-tenure Track Adjunct Faculty, External to WSU
- i. Apel, William
 - ii. Fredrickson, Jim
 - iii. Kuprat, Andrew
 - iv. Majors, Paul
 - v. Peden, Charles H.F.
 - vi. White, Jim