

Resolution 2018-2019.C

Resolution to Approve New Major, Polymer Chemistry, in Bachelor of Science in Chemistry

Recommended by the Commission on Undergraduate Studies and Policies

First Reading: March 25, 2019

Second Reading:

Faculty Senate:

Staff Senate:

Graduate Student Assembly:

Student Government Association:

Approved by University Council:

Approved by the President:

First Effective Date to Declare Major: Fall 2019

First Effective Date to Graduate: Winter 2021

WHEREAS, polymer chemistry has attracted both long-standing and resurgent recognition among the academic and research communities of science, technology, engineering and mathematics (STEM) as a vitally important and thriving interdisciplinary field; and

WHEREAS, polymer chemistry is an increasingly important aspect of materials science as demonstrated by multiple major international conferences each year and steady increases in Federal research resources (e.g., from National Science Foundation, National Institutes of Health, and the US Departments of Energy, Defense, and Agriculture) directed to colleges and universities; and

WHEREAS, polymer science is a large and increasing sector of American research and development, providing new materials for water purification, drug delivery, renewable energy, electronic devices, textiles and fire retardants, built environments, paints and coatings, packaging and adhesives, as well as pipe and plastic parts including 3D-printed objects; and

WHEREAS, polymer chemistry is a cornerstone activity of the Virginia Tech Macromolecules Innovation Institute (MII), an academic research enterprise comprising seventy faculty members spanning thirteen academic departments as well as Institute for Critical Technology and Applied Science (ICTAS), the Virginia College of Osteopathic Medicine (VCOM), and the Fralin Biomedical Research Institute, and

WHEREAS, the Chemistry Department in particular has established a premium international reputation in the area of polymer chemistry; and

WHEREAS, the creation of the Major in Polymer Chemistry will establish an additional educational path for students in the Bachelor of Science in Chemistry who desire a focused program in an important application area that will prepare them well for employment in the private sector (from the many small startups to giants like ExxonMobil, DuPont, 3M, BASF,

Dow, and Lyondell), for employment in government agencies, and for graduate study in medicinal chemistry and allied fields; and

WHEREAS, 50% of all chemists will work in polymer science in some capacity during their careers (*American Chemical Society, College to Career 2019*); and

WHEREAS, only two universities in the Eastern United States (none within the Great Commonwealth of Virginia) presently offer undergraduate majors in polymer chemistry;

THEREFORE, LET IT BE RESOLVED that the Major in Polymer Chemistry be approved for addition to the Bachelor of Science in Chemistry effective Fall 2019 and the proposal be forwarded to the President for approval.