February 8, xxxx

Name
Department
Street
University
City, State Zip

Dear NAME,

It is with much anticipation that I submit to you my application for the tenure-track assistant professorship that is being offered jointly by the Departments of Electrical Engineering and Bioengineering at UCSF. I first became aware of the opportunity after receiving the position announcement from you. I understand that NAME, a member of my dissertation committee, endorsed the potential appropriateness of my candidacy during her recent visit to serve on the external review committee for your department. **The interdisciplinary nature of this appointment is very much in line with my passions and interest in collaborative, application-oriented, cross-disciplinary work, and fits well with my background in biomedical optics.** I believe that not only will my present research and teaching experience be an immediate asset to your department, but the opportunity to continue to do more of the same in UCSF's progressive and nurturing environment will benefit my professional development, as well.

I expect to receive my Ph.D. in Biomedical Engineering from Yale University in September xxxx. Since xxxx, I have worked under the guidance of Professor NAME, a pioneer researcher of optical coherence tomography. Immediately prior to this I served as a Visiting Lecturer at the National Polytechnic Institute in Singapore. My dissertation work with spectral domain phase microscopy, a phase-sensitive optical imaging technique that I co-invented, was partly directed by collaborations with faculty in the Department of Pediatrics. **Through this experience, I have gained technical expertise in designing and building functional optical imaging systems for translational research in clinically viable settings, secured funding for this work through a competitive research grant, and participated in the patent-application process. Moreover, while at Yale I have aggressively embraced opportunities to teach, mentor, and serve on several administrative committees, all of which are important components of faculty responsibilities at any university.** This activity, in addition to my organizational leadership and community service roles, is detailed in my curriculum vitae.

I look forward to discussing my research and teaching experiences with you in the near future. Please feel free to contact me via email at elaine.yale@yale.edu or by telephone at PHONE. Thank you for your consideration.

Sincerely,

Elaine Yale

> While this letter doesn't follow the standard progression (intro, past research, future research, teaching), it is nicely tailored to the position and institution, and it certainly leaves the reader intrigued to learn more. The candidate was successful in landing this tenure-track position and even negotiated to pursue a one-year science policy fellowship prior to joining the faculty. Nonetheless, her letter would have been stronger with a clear and focused paragraph on her future research directions.

Emery Yale
Department of Mathematics
Yale University
10 Hillhouse Avenue
New Haven, CT 06511
emery.yale@yale.edu
203-432-4172

2 November 20xx

NAME
Title
University
Street
City, State Zip

Dear NAME,

I am writing to apply for the tenure-track position in mathematics as advertised on the Employment Information in the Mathematical Sciences List. I am a graduate student at Yale University working in Algebraic Combinatorics under the direction of NAME (Yale University). I expect to complete my PhD by Month XXXX. **My teaching, mentoring, and tutoring experiences, along with my research background, make me a strong candidate to teach both lower-level and upper-level mathematics courses and to make substantial contributions to the academic environment of Dickinson College.**

My current research centers on enumerating shuffles of permutations. I am very excited to have solved the problem as originally posed, that is: if you shuffle two permutations words with each other, so as to preserve the relative order of the letters in each of the two words, how many distinct shuffle words can be obtained? I have found a formula that gives the number of such shuffles, even when the permutations are allowed to differ in length and am presently working on discovering generalizations. I propose to continue looking at the enumeration of various types of shuffles, but also to branch off into other problems in permutation enumeration. **I believe that my projects will address topics that may also be accessible to undergraduate researchers, and I would be thrilled to have the chance to direct undergraduate research projects in combinatorics as well as to guide independent studies in any mathematics-related area.**

As my CV illustrates, I have a broad range of teaching experience, from extensive tutoring and individual mentoring to teaching undergraduate courses in Calculus and Linear Algebra with Differential Equations. In the undergraduate courses at Yale, I prepare and deliver my own lectures thrice weekly, hold office hours and review sessions, help to write and grade exams, and am always accessible to students by email. One of the highlights of my teaching career was team-teaching a summer school course on proof from a seminar approach; almost the entire course unfolded as student presentations and student-led discussions of assigned homework exercises, and I found it an invigorating challenge to tease out the difference between when I should interfere, give feedback, or gently nudge students in the right direction, and when they would learn more from my silent observation.

I embrace every teaching opportunity that I can find, and I have worked enthusiastically and effectively with students at a variety of levels. I believe in keeping all my courses and tutoring sessions student-centered, and so I focus on creating a dialogue with the students and to helping them discover answers for themselves. Courses in your catalogue that I would particularly enjoy teaching include Precalculus, Calculus I, II, & III, Fundamental Mathematics I & II, Linear Algebra, Probability, Modern Geometry, Sequences and Series, Algebraic Structures, and the Senior Seminar. In addition, I would be glad to learn the material needed to teach courses such as Statistical Reasoning, Applied Statistics, and Mathematical Statistics.

I love to teach and to do math, and it is my goal to secure a position where I can put my energies into both rewarding mathematical inquiry and high-quality undergraduate education. I know that I could reach this goal at Dickinson College. My research interests in Algebraic and Enumerative Combinatorics would nicely complement those of your own faculty. Moreover, because my own undergraduate experience was broad, including majors in English and in French Literature as well as in Mathematics, I know that I would thrive in a liberal arts environment where I could distill the beauty of mathematics and make it readily accessible to others.

Enclosed you will find my CV, research and teaching statements, and copies of transcripts. A dossier of reference letters will arrive under separate cover. I can provide further evidence of teaching effectiveness, such as student evaluations, or other materials, on request. I will be giving a talk at the AMS Joint Mathematics Meetings in Washington, DC this January and will be available for an interview during the week of the conference, or by phone at any other time. I can be reached by email (emery.yale@yale.edu) or at PHONE.

Thank you for your time and consideration. I look forward to hearing from you.

Yours sincerely,

Emery Yale
Yale University

The tone and content of this letter are appropriate for a faculty position in a small liberal arts college. Take note that the candidate discusses not only the courses she can teach and her pedagogical approaches, but she also indicates how her reasearch would appeal to undergraduates. If she were an experimental scientist, it would be important for her to address not only how accessible her research is to undergraduates, but also how feasible it would be for the college to support the research facilities, equipment, etc.