

The Statement of Purpose

The application essay for graduate programs, fellowships, and internships in the science and engineering fields is more than a mere accounting of your activities and declaration of your philosophy. Instead, it is a **forward-looking argument** for your envisioned career, your **motivations** to solve problems and make discoveries, and a **demonstration** of your commitment to mission and capacity to conduct, lead, and communicate research or other projects.

Some organizations instead or additionally require *Personal Statements*, essays that fulfill many of the above goals and especially emphasize the “**big picture**” of your long-term plan. Despite its title *Personal Statement*, do not take it to mean autobiography or confessional. Whatever they are called, *Personal Statements*, *Statements of Purpose*, and such are all intended to give you a chance to show the value you will add to a graduate research program, a project site’s objectives, and your area of science or engineering over the course of your career.

Weak Statements of Purpose: are written chronologically, draw on childhood experiences as “evidence” of passion, state facts without demonstrating the candidate’s agency, praise the institution, allude to character traits and future plans without giving concrete examples. **Strong Statements of Purpose:** are thoughtfully organized, link past achievements to future intentions, demonstrate an understanding of the entire scientific process – from question to hypothesis to data gathering and analysis to dissemination. (Or, demonstrate the capacity to solve problems and produce deliverables.)

How to write the best possible essay:

- Before putting any words to paper, reflect on your professional goals and the experiences you’ve had that qualify you to pursue them.
- Think about what excites you in your chosen field and how your energy/passions have resulted in outcomes, whether concrete or intangible.
- Consider the choices you made that put you on your path through coursework, research projects, and outside activities.
- Come to terms with the fact that not all of your experiences (even substantial time investments) will have a place in your essay.
- Clearly articulate and distinguish those accomplishments that are yours alone and those for which you were part of a team versus those that you observed from a distance.
- Use topic sentences, active verbs, detailed descriptions, and rich vocabulary.
- Ask several people (especially experienced instructors, advisors, and supervisors) to read and comment on your essay after the second draft.
- Good statements of purpose go through many substantial revisions before they’re ready to submit.

Real Essay Prompts
Culled from Graduate, Fellowship, and Field Placement Applications

In a concise statement, provide a summary of your current educational program objectives and your long-range professional goals. As part of this statement, we are interested in your ideas about the kinds of research in which you have engaged and in which you would like to engage during your studies as well as during your expected tenure with the NASA Aeronautics Scholarship Program. Please address how you think your current program fits with the field of Aeronautics. You should discuss specific research questions that interest you and how you became interested in them. Please discuss these research interests in sufficient detail for an expert who is technically competent in your field to judge your understanding of the questions to be addressed. [NASA Aeronautics Undergraduate Scholarship]

Describe your personal, educational and/or professional experiences that motivate your decision to pursue advanced study in science, technology, engineering or mathematics (STEM). Include specific examples of any research and/or professional activities in which you have participated. Present a concise description of the activities, highlight the results and discuss how these activities have prepared you to seek a graduate degree. Specify your role in the activity including the extent to which you worked independently and/or as part of a team. Describe the contributions of your activity to advancing knowledge in STEM fields as well as the potential for broader societal impacts. [National Science Foundation Graduate Research Fellowship]

In one page, discuss your interests and goals and why you should be admitted to Aerospace Engineering. [University of Illinois – Urbana]

In your own words, provide a summary of your educational program objectives and your long-range professional goals. As part of this statement, we are interested in your ideas about:

- the kinds of research in which you would like to be engaged during your graduate study or in the longer term;
- specific research questions that interest you and how you became interested in them;
- how your research might be of interest to the Department of Defense (DoD); and
- your long-term goals and how the science fits into your life as an individual, especially your future career. [National Defense Science & Engineering Graduate Fellowship]

Your Statement of Purpose should identify personal and professional goals. It should also discuss your development to date and your intentions relative to graduate study and life beyond Stanford. The Aero/Astro Graduate Admissions Committee reads your Statement of Purpose with interest because, along with the Letters of Recommendation, it offers insight into who you are as an individual. Your Statement of Purpose should not exceed two pages in length (single spaced). [Stanford University Aeronautics & Astronautics]

Maximum two-page statement containing the following:

- (a) A clear, concise account of your reasons for seeking this scholarship.
- (b) Evidence of previous interest and experience in space, aerospace, or space-related studies.
- (c) A description of your present interest in the space field.
- (d) A description of the program of space-related studies you plan to pursue during this period of this award. [WSGC Undergraduate Scholarship]