

NASA Aeronautics Scholarship Application Supporting Statement

Annually, the NASA Aeronautics Scholarship Program will collect applications from students interested in participating in undergraduate or graduate scholarship program. NASA plans to select up to 20 undergraduate and 5 graduate awardees (pending budget approval) each year to participate in the NASA Aeronautics Scholarship Program.

Collection Name	Start	End	Purpose	Method	Population	Est. # Respondents	Burden Hours
NASA Aeronautics Scholarship Program Application	Feb FY08	March . FY08	Determine which students to select for 2 or 3-year scholarship	Online application	Students	250	250 or 1 per application

A. Justification

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

NASA's founding legislation, the Space Act of 1958, directs the agency to expand human knowledge of Earth and space phenomena and to preserve the role of the United States as a leader in aeronautics, space science, and technology. High achievement in science, technology, engineering, and mathematics (STEM) education is essential to the accomplishment of NASA's mission. The Strategic Management of Human Capital initiative under the President's Management Agenda requires agencies to "build, sustain, and effectively deploy the skilled, knowledgeable, diverse, and high-performing workforce needed" to meet agency core competencies. NASA's education investments will contribute to the agency's human capital needs.

NASA requires the voluntary collection of information from the public to support the NASA Aeronautics Scholarship program. The information to be collected is the application information required to process and grade the application for possible award of a scholarship under the program. The aeronautics scholarship program is to be an undergraduate and graduate level scholarship for students pursuing degrees in aeronautics related disciplines to improve the future aerospace workforce. In part the collection of this data is congressionally mandated as stated in public Law 109-155-DEC. 30, 2005, 119 STAT. 2927, 42 USC 16741, Section 431 NASA Aeronautics Scholarships for a graduate level scholarship. NASA to better serve the aerospace community and the country is expanding the requirement of a graduate masters level scholarship to include undergraduate, masters and doctoral level scholarships.

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All of NASA's education efforts are part of an integrated agency-wide approach to human capital management. Within the NASA Strategic Plan, education is identified as a cross-cutting function that supports all of the agency's strategic goals and objectives. NASA delivers a comprehensive agency education portfolio—a collection of investments and strategies, such as research and development, managed to further common goals—implemented by the Office of Education, the NASA mission directorates, and the NASA centers. Through the portfolio NASA contributes to our nation's efforts in achieving excellence in STEM education. Three outcomes serve to align all agency education activities:

- **Outcome 1: Strengthen NASA and the nation's future workforce**—NASA will identify and develop the critical skills and capabilities needed to achieve the Vision for Space Exploration. To help meet this demand, NASA will continue contributing to the development of the nation's future STEM workforce through a diverse portfolio of education initiatives that target America's students at all levels, especially those in traditionally underserved and underrepresented communities.
- **Outcome 2: Attract and retain students in STEM disciplines**—To compete effectively for the minds, imaginations, and career ambitions of America's young people, NASA will focus on engaging and retaining students in STEM education programs to encourage their pursuit of educational disciplines critical to NASA's future engineering, scientific, and technical missions.
- **Outcome 3: Engage Americans in NASA's mission**—NASA will build strategic partnerships and linkages between STEM formal and informal education providers. Through hands-on, interactive, educational activities, NASA will engage students, educators, families, the general public, and all agency stakeholders to increase Americans' science and technology literacy.

As the United States begins the second century of flight, the nation must maintain its commitment to excellence in STEM education to ensure that the next generation of Americans can accept the full measure of their roles and responsibilities in shaping the future.

NASA Aeronautics Scholarship Program will collect information from students necessary to determine which students will be selected to receive aeronautics scholarships. Each year, NASA plans to select up to 20 undergraduates and up to 5 graduates to receive two or three-year NASA Aeronautics Scholarship Program scholarships. This scholarship program as described below supports NASA education outcomes 1 and 2.

The genesis of the NASA aeronautics scholarship program is in public Law 109-155-DEC. 30, 2005, 119 STAT. 2927, 42 USC 16741, Section 431 NASA Aeronautics Scholarships, in which NASA will develop a scholarship program to promote aeronautics education at the graduate level in the United States. This scholarship will be for full-time graduate students who are United States citizens and are enrolled in, or have been accepted by and have indicated their intention to enroll in, accredited Masters Degree programs in aeronautical engineering or equivalent programs at institutions of higher education. Students who have been awarded a scholarship under this section shall have the opportunity for paid employment at one of the NASA Centers engaged in aeronautics research and development during the summer prior to the first year of the student's Masters program, and between the first and second year, if applicable.

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As a stop-gap measure to meet the congressional requirement, the Aeronautical Research Mission Directorate (ARMD) used the NASA Graduate Student Research Program (GSRP) as a mechanism to operate the initial Master's level program last year. NASA in reviewing what was needed in the future workforce determined that providing scholarships only to the masters level students while advantageous, did not meet the future workforce needs of NASA and the aerospace industry. A more uniform and continuous program is required. This was the rationale for the new NASA Aeronautics Scholarship Program, a multiphase program that forms a pipeline for the future aeronautics workforce. Beginning at the undergraduate level, students will be exposed to NASA aeronautics research at the NASA research centers and provided funding to support their educational expenses. This stepping stone approach to scholarships will allow a bachelors level workforce for NASA and industry while also providing students for graduate level study. The second tier of the scholarships is at the graduate level. There are fewer of these scholarships since they are more costly and there are fewer people needed with advanced degrees than undergraduate degrees. The dual undergraduate/graduate program allows NASA to tailor the number of scholarships at each level to NASA and industry needs each year. NASA's Aeronautics Research Mission Directorate has set aside one million dollars for the start up of the program and is envisioning offering 1.5 million dollars in scholarships once the program is fully operational. Initially it is envisioned that approximately 20 undergraduate and 5 graduate scholarships will be awarded, increasing to a total of approximately 40 undergraduate and 15 graduate scholarships when the program is in full operation.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The NASA Aeronautics Scholarship Program Application is made available to students online via the Web site of a NASA contractor, the American Society of Engineering Education (ASEE) ASEE provides a centralized and neutral site for the collection of applicant information. Educators who are interested in participating in the three-year NASA Aeronautics Scholarship Program may voluntarily apply after reviewing information about the NASA Aeronautics Scholarship Program on the NASA Aeronautics Scholarship Program Web site <http://www.asee.org/nasaasp>. A link to the application is provided from the NASA Aeronautics Scholarship Program Web site. Data collected through the online application is used to determine which students will be selected to participate in the NASA Aeronautics Scholarship Program.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden.

Respondents will complete an online application form hosted on an ASEE Web site. Applicants will be asked to establish a unique login and password on their initial visit to the Web site. The applicants may use the login and password to return to the Web site and complete their

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application in multiple sessions, if needed. All applicant data will be collected online using database technologies.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

No duplication is involved. Application to participate in the NASA Aeronautics Scholarship Program is unique.

5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83-I), describe any methods used to minimize burden.

Small businesses will not be impacted.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

NASA needs certain information to determine which applicants meet required selection criteria and to what extent. Without this data collection, NASA will not be able to select up to 20 undergraduate and 5 graduate scholarship awardees each year. In addition NASA will not be able to fulfill the language in public Law 109-155-DEC. 30, 2005, 119 STAT. 2927, 42 USC 16741, Section 431 NASA Aeronautics Scholarships. Not offering these scholarships will on average reduce the scholarship pool of an estimate \$1.5 million that NASA plans to award in support of this program.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

- * requiring respondents to report information to the agency more often than quarterly;
- * requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;
- * requiring respondents to submit more than an original and two copies of any document;
- * requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;
- * in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;
- * requiring the use of a statistical data classification that has not been reviewed and approved by OMB;
- * that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or
- * requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.

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The NASA Aeronautics Scholarship Application is a required deliverable to enable students to be considered for one of the limited number of aeronautics scholarship awardees to be selected in 2008. To lessen the impact on students who will complete the scholarship application, and to ensure an optimum response rate, the application period must be open during times when they are available and can obtain any required supporting materials from facility and their Universities or schools. The collection of data as detailed in the attached sample must begin no later than January 3, 2008, and remain open for no less than two months.

8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden. Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported. Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years - even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

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9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

N/A

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

Applicants will be required to establish a unique login and password in order to access the NASA Aeronautics Scholarship Program application online at the ASEE Web site. The limited personally identifiable information collected through the application process is not accessible to the applicant or the site administrator without a valid login and password. Privacy statements are posted on both the NASA Aeronautics Scholarship Program and ASEE Web sites.

ASEE will establish an applicant database for the purpose of applicant selection. Applicants will only have access to their own data with a valid login and password. An administrator will only have access to the data collected with a valid login and password. A Privacy Impact Assessment has been submitted by the Lead for Communication and Education for Aeronautics Research who is serving as the Program Manager for the Aeronautics Scholarship Program and is being reviewed by the Privacy Act Manager.

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11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

Only questions relevant to the students application to the program or other demographic data on the applicant are being gathered. All data gathered will only be used in conjunction with this program

12. Provide estimates of the hour burden of the collection of information. The statement should:

* Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.

* If this request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens in Item 13 of OMB Form 83-I.

* Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 13.

We estimate that about 250 students will complete the application, spending an average of one (1) hour each. This totals 250 hours. This is an annual data collection.

13. Provide an estimate for the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14).

* The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life) and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.

* If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collections services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day

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pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.

** Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.*

There is no cost to applicants.

14. Provide estimates of annualized costs to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies may also aggregate cost estimates from Items 12, 13, and 14 in a single table.

Annualized costs to the Federal government are estimated at \$168,000 based on the actual five-year contract cost of \$844,000 to operate the full NASA Aeronautics Scholarship Program for the government. This represents an estimate of 1850 hours for year 1 and a total of 9,250 hours for the five years contracted.

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB Form 83-I.

N/A

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

The opening of the application window for the NASA Aeronautics Scholarship Program is highly publicized through various NASA and external web sites and other existing mechanisms used to inform the education audience of products and services available to them by NASA.

Once the application season is closed, NASA Aeronautics Scholarship Program representatives will convene a national selection board that will consist of NASA representatives, ASEE, University, Industry and representatives from other Federal agencies such as the USAF and FAA. All board participants will access the ASEE Web site (with a valid login and password) to review the completed applications in their area of technical expertise. The board members will use a scoring rubric (see attached) to help them select semifinalists. Semifinalist selections are then submitted to the NASA Aeronautics Scholarship Program Manager. The NASA Aeronautics Scholarship Program Manager will form a review board of NASA Aeronautics Research Senior Leadership to determine the final selection scholarship recommendations that will be presented to the NASA Associate Administrator for Aeronautics Research for their

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Approval. After senior management has concurred with the final selections and congressional notification has taken place, applicants are notified of their acceptance status by telephone.

A list of students selected is published on various NASA Web sites. The proposed list would include the name of the student, University attending and research topic if applicable.

Notional Application Submission and Review Dates

1/03	The Scholarship application window is open.
3/03	The Scholarship application window is closed.
3/10	ASEE completes the initial screening of the applications. Applications are sent to the national board for prioritization.
3/10	Board reviews applications to determine semifinalist teams.
3/10 to 3/20	The team lead and team administrator of the semifinalist teams are interviewed by telephone. NASA centers' prioritized lists are due to NSTA.
3/22 to 3/24	The NASA Aeronautics Senior Leadership selection board convenes to finalize selections.
3/25	Associate Administrator concurrence is due.
3/31	Congressional notification is done in cooperation with NASA Legislative Affairs.
4/1	All applicants are notified of their acceptance status. Acceptance packages are sent to awardees.
4/14	Awardees return acceptance packages.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

The OMB number will be displayed On the application form..

18. Explain each exception to the certification statement identified in Item 19, "Certification for Paperwork Reduction Act Submissions," of OMB Form 83-I.

None

B. Collections of Information Employing Statistical Methods

The agency should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results. When Item 17 on the Form OMB 83-I is checked, "Yes," the following documentation should be included in the Supporting Statement to the extend that it applies to the methods proposed:

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

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Collection Name	Start	End	Purpose	Method	Population	Est. # Respondents	Burden Hours
NASA Aeronautics Scholarship Program Application	Feb FY08	Mar FY08	Determine which students to select for scholarship	Online application	Students (College)	250	250 or 1 per application

2. Describe the procedures for the collection of information including:

- * Statistical methodology for stratification and sample selection,
- * Estimation procedure,
- * Degree of accuracy needed for the purpose described in the justification,
- * Unusual problems requiring specialized sampling procedures, and
- * Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

Statistical methodology for stratification and sample selection:

Due to the subjective and individual nature of every application, statistical methods are not used. Instead, each application is reviewed on a case-by-case basis by multiple panels of subject matter experts.

More specifically, once the application season is closed, NASA Aeronautics Scholarship Program representatives will convene a national selection board that will consist of NASA representatives, ASEE, University, Industry and representatives from other Federal agencies such as the USAF and FAA. All board participants will access the ASEE Web site (with a valid login and password) to review the completed applications in their area of technical expertise. The board members will use a scoring rubric to help them select semifinalists. Semifinalist selections are then submitted to the NASA Aeronautics Scholarship Program Manager. The NASA Aeronautics Scholarship Program Manager will form a review board of NASA Aeronautics Research Senior Leadership to determine the final selection scholarship recommendations that will be presented to the NASA Associate Administrator for Aeronautics Research for their Approval.

This is an annual data collection.

3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

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The NASA Aeronautics Scholarship Program application respondents are students interested in participating in the NASA Aeronautics Scholarship Program. The opening of the application window for the NASA Aeronautics Scholarship Program will be highly publicized through various NASA and external web sites and other existing mechanisms used to inform the education audience of products and services available to them by NASA.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of test may be submitted for approval separately or in combination with the main collection of information.

Please see the attached document entitled “NASA Aeronautics Scholarship Program Applications” for details regarding the questions to be asked on the applications. The actual NASA Aeronautics Scholarship Program Application will be reformatted for delivery as an online application.

5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

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