



Georgia Institute of Technology

Title IX Compliance Report



School of Aerospace Engineering

Office of Diversity and Equal Opportunity
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I. INTRODUCTION

NASA conducted a compliance review of the Georgia Institute of Technology (GA Tech or the University) School of Aerospace Engineering (AE program or the School), to ensure that beneficiaries of NASA grants have equal opportunity, without regard to sex, to pursue, participate in and benefit from academic research, career development opportunities, extracurricular and other educational activities. The review was conducted under Title IX of the Education Amendments of 1972, and NASA's implementing regulations and policy, which prohibit discrimination on the basis of sex in educational programs and activities receiving Federal financial assistance.¹

A. Background

NASA Title IX regulations provide for periodic review of NASA grant recipients.² These regulations became effective in November 2000. NASA's Title IX compliance program received further impetus with the July 2004 report of the Government Accountability Office (GAO), which recommended that Federal agencies conduct onsite compliance reviews.³ In addition, NASA's authorizing legislation requires the Agency to conduct at least two Title IX compliance reviews annually.⁴ NASA has been involved in many Title IX related compliance activities since the regulations were issued in 2000, conducting a number of limited-scope "desk-audit" as well as onsite reviews of grant recipients.

B. Objectives and Scope

NASA sought to achieve the following key objectives in conducting this review:

Objective 1

Evaluation of GA Tech's compliance with NASA Title IX regulations, specifically to:

- Assess the Title IX Coordinator's role and functioning; confirm the existence of Title IX policy and procedures and the quality of their dissemination; evaluate Title IX grievance procedures and the effectiveness of their implementation; and review Title IX self-evaluation efforts, specifically regarding the GA Tech program under review; and
- Evaluate the AE program's provision of equal opportunity regardless of gender in the following areas of program administration: student recruitment, outreach, admissions, enrollment, retention, academic advising, research participation, classroom and lab experiences, policies/procedures and student experiences relating to parental/marital status ("family friendly" policies) and physical safety of the program environment, and recent faculty recruitment efforts.

¹ Title IX of the Education Amendments, as amended (20 U.S.C. §§ 1681-1688); Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance, 14 C.F.R. Part 1253; NASA Policy Directive 2081.1A, Subject: Nondiscrimination in Federally Assisted and Federally Conducted Programs of NASA - Delegation of Authority.

² See 65 Fed. Reg. 52,859 (Aug. 30, 2000). Enforcement Procedures, 14 C.F.R. § 1253.605 (incorporating compliance requirements of Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d)).

³ Government Accountability Office, *Gender Issues: Women's Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX* (July 2004) (July 2004 GAO Report). Included in the Report's recommendations was that "the Administrator of NASA continue to implement its compliance review program to ensure that compliance reviews of grantees are periodically conducted." (p. 28).

⁴ See NASA Authorization Act of 2005, 42 U.S.C. § 16798(b).

Objective 2

Identification of promising practices of the AE program designed to promote gender equity, specifically to:

- Identify efforts consistent with the recommendations and focus of the July 2004 GAO report; and to
- Determine the extent to which promising practices are actually helping to create greater gender equity and diversity in the program, for both students and faculty.

C. Methodology

1. Pre-onsite Review Activities

NASA developed a Title IX compliance review plan (CRP) to identify relevant regulatory requirements, potential issues and specific inquiries needed to conduct a thorough compliance assessment of its grantees. The CRP was developed in consultation with the U.S. Department of Justice (DOJ), Civil Rights Division, and the U.S. Department of Education (ED) Office for Civil Rights (OCR), the lead agencies on Title IX investigations. In addition, NASA developed a Title IX literature review to better understand concerns regarding gender and STEM as well as strategies to address such concerns, including Title IX compliance efforts in the STEM context. (See Appendix A. Summary Literature Review)

The CRP identified two focal points for compliance assessment: 1) Title IX procedural compliance requirements; and 2) program administration, that is, policies, procedures, and practices affecting the academic environment (see “Objectives,” above). The CRP also identified the methods by which needed information would be gathered from recipients, including: information requests for statistical data and relevant policies and procedures, and an on-site visit to interview university officials, program faculty, and students.

2. On-site Compliance Review Activities

NASA conducted its on-site review of the GA Tech AE program on November 15-18, 2009. During its visit, NASA staff conducted one-on-one interviews with GA Tech officials, including the Vice Provost for Academic Diversity (female), the Associate Dean for Engineering (female), and the Assistant Dean of Students (female). Among the AE faculty, NASA interviewed two women professors and eight male professors, including the AE program Chair (male). NASA also interviewed three AE program lecturers (female), an academic professional (female), and one AE program academic advisor (female) from the School’s administrative staff. In addition, NASA staff interviewed the GA Tech Title IX Coordinator. NASA also conducted one-on-one interviews with 15 AE graduate students (five women and 10 men), and 15 undergraduates (eight women and seven men).

II. COMPLIANCE ANALYSIS

The compliance review analysis provides an assessment of issues within the two focus areas of procedural compliance requirements and program administration. The recommendations are intended to strengthen existing compliance activities.⁵ Promising practices associated with each of the compliance areas are also reported.

⁵ GA Tech reports it has already begun implementation of key recommendations. According to the University, these include but are not limited to: revisions to GA Tech’s Equal Opportunity Complaint Policy; revisions to the Institute Diversity and Human Resources Websites, and further assessment of training programs for all campus constituents. The School of Aerospace

A. Designation of Responsible Official for Title IX Coordination and Enforcement

1. Regulatory Requirements/Guidance

The NASA Title IX regulations state that a recipient must designate an official responsible for Title IX coordination and enforcement, i.e., a “Title IX Coordinator.”⁶ The recipient must notify all students and employees of the Title IX Coordinator’s name, office address, and telephone number.

2. Findings of Fact

The GA Tech Title IX Coordinator is officially the Senior Director, Employee Relations Services, Office of Human Resources. She reports directly to the head of the University’s Office of Human Resources. She is responsible for handling discrimination complaints involving faculty only or faculty and students. While she serves as a referral service for Title IX complaints involving only students, such complaints are normally directed to the Office of the Dean of Students.

3. Compliance Assessment

NASA’s compliance assessment focused first on the Title IX regulatory requirement to disseminate contact information for the Title IX Coordinator and her office.⁷ In this regard, NASA notes that the Title IX Coordinator’s name and contact information are available on the Employee Relations page of the Office of Human Relations web site. The title of “Title IX Coordinator” does not appear next to her name, so it is clear only that she is the “Senior Director, Employee Relations” (see “Recommendations,” this section).

A web search for “Title IX” and “GA Tech” leads to the “Title IX Compliance” page of the University’s “Diversity@Tech” site. Here the Title IX Coordinator is mentioned as such and by name, along with the names of the Dean of Students and other officials responsible for receiving Title IX complaints, such as the Associate Vice President for Enrollment Services, who is responsible for receiving Title IX complaints involving financial aid and admissions. It would be beneficial for members of the academic community if there was a link from the Employee Relations page (and other organizations’ web pages where officials with Title IX complaints roles and responsibilities reside) to the Diversity@Tech page, to make it easier for anyone looking for this information to find (see “Recommendations,” this section).

Regarding AE, while students interviewed during the onsite did not know the name or the office of the Title IX Coordinator, NASA has found in its Title IX reviews that this is more common at large academic institutions. In addition, none of the students interviewed stated that he or she had ever had occasion to report discrimination or harassment. Nonetheless, it appears that the GA Tech Title IX Coordinator’s office may need to take further steps to better ensure that students are provided with this contact information, consistent with NASA regulations (see “Recommendations,” this section).

While the NASA Title IX regulations do not provide further specificity regarding the role and effective functioning of the Title IX Coordinator, the U.S. Department of Justice (DOJ), which has oversight responsibility for all Federal Title IX compliance and enforcement activities, has provided additional considerations for Federal agencies evaluating recipient compliance with the Title IX Coordinator

Engineering has preliminarily accepted the recommendations by NASA based on its draft report. See Pearl Alexander, Senior Director, Employee Relations, Office of Human Resources, letter to NASA Office of Diversity and Equal Opportunity, dated May 14, 2010.

⁶ Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(a).

⁷ 14 C.F.R. § 1253.135(a).

regulatory provision.⁸ These additional considerations appear in DOJ's document, "Questions and Answers Regarding Title IX Procedural Requirements" (Title IX Q&A).⁹

For purposes of this review, NASA focused on the following areas identified in DOJ's Title IX Q&A: 1) effective functioning, including skills and competencies, regarding the administration and implementation of GA Tech's Title IX grievance process; 2) the authority and access of the Title IX Coordinator to university senior leadership, needed to effectively perform roles and responsibilities; and 3) appropriate training of faculty, staff, and students.

NASA finds that the Title IX Coordinator possesses the skills and competencies necessary for the effective administration of the grievance process and related activities. For example, the Title IX Coordinator possesses a thorough knowledge of GA Tech's Title IX grievance procedures, including the filing and investigative stages, and knowledge of GA Tech personnel policies and practices. She possesses a ready knowledge of the details pertaining to complaint processing, e.g., the approximate number of complaints filed per year and the number currently in the system.

However, it does not appear the Title IX Coordinator possesses the degree of authority and access to top institutional leadership needed to optimally perform her duties. In this regard, NASA notes that the current position of Title IX Coordinator, Senior Director, Employee Relations, reports to the head of Human Resources. Employee Relations is one of a number of functional areas within the university's Human Resources structure, which also includes functions such as payroll, benefits, and compensation. Under GA Tech's new organizational structure, effective February 1, 2010, Human Resources is under a new Vice President for Campus Services, a full level below where this section was reporting. Notably, the restructuring also includes the creation of a Vice President for Diversity and Inclusion who reports directly to the President.

This structure presents a two-fold issue: not only does the position itself not communicate a high level of appointment to the university community, but it is associated mainly with employment matters. Title IX, however, covers both employment and educational opportunities and Title IX complaints may come from or involve both employees and students. In addition, NASA's Title IX review program suggests that successful Title IX coordination, particularly influence leadership efforts and strategic partnerships with academic departments, depends to a large extent on the stature of the Title IX Coordinator's office within the university structure. It depends also on the degree of authority and access to top leadership accorded the head of that office.

The Title IX Coordinator herself is aware of this issue. She stated in her interview with NASA that the new Office of Diversity and Inclusion may be a more logical place for the position of Title IX Coordinator to reside. NASA agrees, not only because the new Vice President for Diversity and Inclusion has direct access to top leadership, but because the new office will have authority over matters pertaining to both employees and students. Moreover, the Office of Diversity and Inclusion can serve as a central focal point for all activities and efforts pertaining to Title IX, while delegating specific roles and responsibilities for Title IX enforcement. For example, intake for Title IX complaints from or involving University employees may reside with the Office of Human Resources, while intake for complaints from students would reside with the Office of the Dean of Students. Thus, the Title IX Coordinator would be, or directly report to, the Vice President for Diversity and Inclusion, with a "dotted line" relationship with Human Resources and other appropriate offices, such as the Office of the Dean of Students.

⁸ See Executive Order 12250, 3 C.F.R., 1980 Comp. 298. Section 1-203 of the Executive Order states that "[t]he Attorney General shall develop standards and procedures for taking enforcement actions and for conducting investigations and compliance reviews."

⁹ This document is accessible at <http://www.usdoj.gov/crt/cor/coord/TitleIXQandA.htm>.

NASA also examined the training efforts that the Title IX Coordinator and partner offices undertake on a regular basis, since training is a critical part of the tasks and responsibilities of Title IX coordination efforts.¹⁰ In this regard, GA Tech reports that the Title IX Coordinator's office facilitates or co-facilitates a number of training courses throughout the academic year, with facilitation available for specially requested sessions. The courses include such titles as Managing Legal Risks, Preventing Workplace Discrimination, Preventing Sexual Harassment and Understanding and Managing Diversity.

However, NASA notes that several AE faculty members interviewed found that a recent training specifically on Title IX did not meet their needs in that it apparently did not provide a sufficient level of clarity regarding Title IX's requirements. For example, one faculty member stated that questions about what Title IX actually requires, and what non-compliance with Title IX "would look like" were not adequately answered in his estimation (see "Recommendations," this section).

4. Recommendations

a. Broader Dissemination of Title IX Coordinator Contact Information. To the extent that the Title IX Coordinator position continues to reside in the Employee Relations division of the Human Resources office, GA Tech should state that the Senior Director, Employee Relations is the University's Title IX Coordinator on GA Tech's Employee Relations web site home page. GA Tech may also wish to consider establishing a link from the Employee Relations page (and other organizations' pages where officials with Title IX complaints receipt responsibilities reside, such as the Office of the Dean of Students) and the Diversity@Tech page to make the information easier to find. GA Tech may also wish to consider clarifying that the "Office for Civil Rights", to which it provides a link on the Diversity@Tech web page, is the U.S. Department of Education's Office for Civil Rights."

The Title IX Coordinator's office should expand its efforts to ensure that contact information for the office and the Title IX Coordinator herself are broadly disseminated, for example, in training materials provided during student orientations. While contact information for the Title IX Coordinator is available online through the Office of Human Resources, GA Tech should ensure broader dissemination of this information through posting on the academic department web sites, inclusion in the Statement of Nondiscrimination, and via periodic dissemination, e.g., annual, email messages to students and faculty.

b. Access to Top Leadership and Authority of the Title IX Coordinator. To better ensure that the Title IX Coordinator has access to top leadership and is accorded appropriate authority to fulfill her duties, GA Tech may wish to consider a change in its reporting structure regarding this position. The creation of the new position of Vice President for Diversity and Inclusion, a role and function designed to enhance equal opportunity efforts at GA Tech, provides an excellent opportunity to re-examine the role and functioning of the Title IX Coordinator. In evaluating the positioning of the Title IX Coordinator, GA Tech should use the DOJ Title IX Q&A document, accessible at <http://www.justice.gov/crt/cor/coord/TitleIXQandA.php> As noted above, this document provides detailed information on the main considerations of grant recipients in ensuring optimal functioning of the Title IX Coordinator, among other Title IX requirements.

c. Title IX Education and Awareness Efforts. The Title IX Coordinator's office, in partnership with stakeholder offices such as the Office of the Dean of Students, and the University's legal office, should develop and deploy diversity and equal opportunity training (including Title IX_training) for faculty and students on an ongoing basis, perhaps annually in the Fall Semester. It should also be offered in the Spring for graduate students and graduate teaching assistants who start in the Spring Semester. The training

¹⁰ See Title IX Q&A, "Designation of Title IX Coordinator – What factors should a recipient consider in designating a Title IX Coordinator?"

should provide clear information on the requirements of Title IX and the roles and responsibilities of the Title IX Coordinator and her office, as well as the roles of leadership, faculty and students in ensuring compliance with Title IX.

NASA has found through its Title IX compliance program that the most effective trainings are those that are tailored to the “real world” experiences of faculty and students. For example, training that includes specific examples of subtle gender bias in the classroom setting, e.g., habitually recognizing and calling on students of one gender in class discussions, interrupting female students more often than males, or allowing others in the class to do so, as well as specific examples of inappropriate gender related conduct, e.g., sexual harassment, tend to be the most effective in conveying behaviors and attitudes inconsistent with equal opportunity mandates such as Title IX. Such training need not be time-intensive, and may reach a wider audience if offered on-line. Efforts should also be made to ensure that all faculty, staff, and graduate students in positions of responsibility have received the training.

5. Promising Practice

Title IX Compliance Committee. GA Tech has established a Title IX Compliance Committee whose members are appointed by the President. The Committee, which has been operational since 2006, is designed to provide institutional support to the Title IX Coordinator. Its charter states that the Committee is responsible for “raising campus awareness, assessing current policies and practices and the effects of such with regard to admissions, treatment of students, and the employment of personnel on campus.” The committee meets at least once a semester and reports out to the President annually.

B. Adoption of Title IX Grievance Procedures and Title IX Policy Dissemination

1. Regulatory Requirements/Guidance

The NASA Title IX regulations require that recipient educational institutions adopt and publish grievance procedures providing for prompt and equitable resolution of student and employee complaints alleging any action that would be prohibited by Title IX.¹¹ The regulations do not specify a structure or format for the grievance procedures.

NASA’s Title IX regulations also require grant recipients to take specific and continuing steps to notify students, employees, applicants for admission and employment, and unions or professional organizations having collective bargaining or professional agreements with the recipient, that it does not discriminate based on gender in the educational programs or activities that it operates, and that it is required by Title IX not to discriminate in such a manner.¹²

2. Findings of Fact

GA Tech’s Title IX grievance procedures are embodied in the University’s Human Resources Manual, Section 1.11, Equal Opportunity Complaint Policy. These procedures are accessible online within the University’s Administration and Finance web site, and show an effective date of October 9, 2009, and a revision date of March 2010. GA Tech reports that its policies and procedures pertaining to Title IX are disseminated to the academic community via websites such as the Diversity@Tech web site and

¹¹ Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(b).

¹² Dissemination of policy, 14 C.F.R. § 1253.140.

the Women's Resources Center web site. In addition, information on GA Tech nondiscrimination policies and procedures is provided at orientation programs for faculty and students.

3. *Compliance Assessment*

NASA's compliance assessment seeks to ensure that GA Tech developed and is implementing procedures that afford grievants "prompt and equitable" resolution of student and employee complaints alleging any action that would be prohibited by the Title IX regulations.¹³ As the regulations do not provide any further specificity regarding the procedures, NASA consulted the U.S. Department of Education (ED) Office for Civil Rights (OCR) and DOJ publications for additional guidance. Such guidance clarifies regulatory requirements. For example, ED OCR states in guidance that "[a] grievance procedure . . . cannot be prompt or equitable unless students know it exists, how it works, and how to file a complaint."¹⁴ In addition, NASA's assessment of GA Tech compliance with the regulatory provision requiring dissemination of Title IX policy was also informed by relevant ED OCR and DOJ guidelines.¹⁵ This guidance emphasizes the need for recipient institutions to have "well-publicized" grievance procedures.¹⁶ ED states that "without a disseminated [sexual harassment] policy and procedure, a student does not know either of the school's policy against and obligation to address this form of discrimination, or how to report harassment so that it can be remedied."¹⁷ DOJ regulations also make Federal funding agencies and recipient institutions responsible for disseminating information materials, e.g., handbooks, manuals, pamphlets, to ensure program beneficiaries are aware of their rights pursuant to EO law.¹⁸

Regarding GA Tech's grievance procedures themselves, as the regulations do not specify a structure for the procedures, NASA looked to the DOJ Title IX Q&A for additional considerations on the basic components of effective, i.e., prompt and equitable, grievance procedures.¹⁹ In general, the procedures are consistent with these requirements and considerations. For example, the procedures provide time frames for completing key elements of the process such as investigations, and state that grievants may file with external civil rights agencies, although these agencies are not named in the procedures themselves.

The procedures are in conformity with regulatory requirements and civil rights policy guidance in another important respect: information pertaining to the procedures and to the University's harassment and discrimination policies is easily accessible by a simple Google search for "Georgia Institute of Technology" and "harassment" or "discrimination." The procedures themselves are easily accessible from the Office of Human Resources, Employee Relations web site, which also includes a link to the procedures from a sub-section on the website called "Harassment and Discrimination." This section very clearly lays

¹³ 14 C.F.R. § 1253.135(b).

¹⁴ U.S. Department of Education, Office for Civil Rights, "Revised Sexual Harassment Guidance: Harassment of Students by School Employees, Other Students, or Third Parties," (Jan. 19, 2001), § IX. Prompt and Equitable Grievance Procedures (accessible at <http://www.ed.gov/about/offices/list/ocr/docs/shguide.html>.) (OCR Revised Sexual Harassment Guidance).

¹⁵ See, e.g., U.S. Department of Justice Civil Rights Division, *Title IX Legal Manual* (Jan. 11, 2001), § V.E., p. 111 (accessible at <http://www.usdoj.gov/crt/cor/coord/ixlegal.htm>); OCR Revised Sexual Harassment Guidance.

¹⁶ See, OCR Revised Sexual Harassment Guidance, Preamble, "Enduring Principles from the 1997 Guidance."

¹⁷ OCR, Revised Sexual Harassment Guidance, § V(D), "The Role of Grievance Procedures."

¹⁸ Public dissemination of Title VI information, 28 C.F.R. § 42.405(c).

¹⁹ For example, the Title IX Q&A states that recipient grievance procedures are a mechanism used to determine whether a particular act, policy, or practice of a recipient complies with Title IX regulations Title IX Q&A, "Grievance Procedures." The Title IX Q&A states that for those recipients who do not have Title IX grievance procedures or for those recipients who want to refine existing procedures, the Department of Education's guidance document, "Title IX Grievance Procedures: An Introductory Manual," (Education Manual) provides some of the basic components for such procedures. This document is accessible through the U.S. Department of Education at <http://eric.ed.gov/>. The grievance procedures should also provide the steps necessary to correct the policy or practice that does not comply with Title IX regulations. *Ibid.* Additionally, recipients should inform the grievant of the right to file a discrimination complaint with an appropriate federal agency, either simultaneously with the filing of an internal grievance or after the unsatisfactory resolution of a grievance.

out institutional policy on harassment and discrimination, explaining what they are and how to file a complaint in a simple question and answer format. Unfortunately, the whole sub-section on harassment and discrimination is located within a section called “Workplace Disputes.” This may create a certain amount of confusion for students (or any non-employee) who may wish to raise a concern regarding discrimination or harassment (see “Recommendations,” this section).

This lack of clarity regarding equal employment opportunity (EEO) as opposed to equal opportunity more generally is replicated in the procedures themselves. For example, they state that “[t]he Office of Employee Relations (Employee Relations) facilitates compliance of the Institute with federal, state, and Board of Regents Equal Opportunity laws and guidelines. This office has the full support of the Institute to identify and initiate resolution of EEO policy violations.” The document confusingly refers to EEO, or “equal *employment* opportunity,” while also stating that it sets forth the procedure for students to file discrimination complaints. While the reference to EEO is consistent with the name of the office that has responsibility for implementation of the procedures, that is, the Office of Human Resources, Employee Relations, neither the name of the office nor the reference to EEO helps to clarify that students may use these procedures as well as faculty and staff to raise discrimination complaints. Also, the procedures, while referring to “laws and guidelines . . . referred to herein” do not specifically mention Title IX or other equal opportunity mandates (see “Recommendations,” this section).

With respect to complaints filed under the procedures, the Title IX coordinator and the AE program report one complaint alleging sexual harassment by a female graduate student against a male faculty member, filed in February 2006. The complaint was investigated and resolved informally by the Office of Human Resources. No other complaints of sex discrimination or sexual harassment were filed in the AE program during the time frame of NASA’s review (the past five years), and NASA does not view allegations of harassing conduct within AE as a concern under the instant review. However, NASA notes in this regard that, according to GA Tech’s response to the information request for the review, neither AE professors nor graduate teaching assistants have participated in training made available by the Title IX Coordinator’s office on a host of relevant topics, including managing legal risks for managers and supervisors, preventing workplace discrimination for managers and supervisors, preventing sexual harassment, and understanding and managing diversity (see “Recommendations” under “Designation of Responsible Official for Title IX Coordination and Enforcement, Sec. II.A.4.c, above).

Regarding dissemination of Title IX policy and procedures, NASA finds that GA Tech does a good job of ensuring appropriate dissemination, as noted above. Despite these efforts, NASA notes that AE students generally were unaware of the procedures for filing grievances, although most stated that they believed they would know where to go to find them, should they need them. This is a typical response NASA has heard from many of the students on its Title IX reviews, especially those who report never having had occasion to access the institution’s discrimination complaint procedures.

4. Recommendations

a. Enhancements to Internal Grievance Procedures. As noted above, GA Tech’s Title IX grievance procedures are unclear in a number of respects, mainly relating to coverage of discrimination related matters occurring outside the employment context, for example, complaints filed by students. GA Tech should consider revising its procedures to eliminate this confusion, e.g., remove references to “EEO” and replace with references to “EO.” More importantly, the University should consider the larger message being sent to the academic community by having the procedures, and indeed the Title IX Coordinator’s role and function, residing within the Office of Human Resources, Employee Relations Division (see also, “Recommendations” under “Designation of Responsible Official for Title IX Coordination and Enforcement, Sec. II.A.4.b, above). At a minimum, the procedures and information pertaining to them, such as the explanations of definitions of harassment, should not be under a sub-section of the web site

referred to as “Workplace Disputes.” The name of this sub-section should be broadened to indicate that it includes discrimination and harassment occurring anywhere within the learning environment. In addition, the laws covered under the procedures and contact information for external civil rights agencies such as the U.S. Department of Education Office for Civil Rights should be provided in the procedures, or the web site, or both.

b. Dissemination of Additional Title IX Informational Materials. GA Tech may wish to develop and disseminate a poster on “Equal Educational Opportunity” under Title IX and related laws, and post it in high traffic areas, including common rooms in dormitories and the Student Union, similar to its “Equal Employment Opportunity: It’s the Law” poster. GA Tech may wish to use as a template NASA’s poster “Equal Opportunity: It’s the Law/Know Your Rights and Responsibilities.” Electronic copies of the posters will be provided to GA Tech upon request.

GA Tech may also wish to enhance its Title IX information dissemination by forwarding an electronic version of the NASA brochure, “Nondiscrimination and Equal Opportunity in NASA Assisted Programs: Title VI of the Civil Rights Act of 1964 and Related Laws,” (which includes information on Title IX) to current students in the AE program working on NASA-funded research.

5. Promising Practices

a. Title IX Policy Dissemination to Principal Investigators. GA Tech makes it a policy to provide to all Principal Investigators receiving federal grant funding with the following language accompanying each notice of award: “Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex (gender) in any operations or programs of a university receiving federal funds. The Georgia Institute of Technology by policy expressly prohibits any acts of non-compliance with Title IX.”

b. Other Title IX Information Dissemination. GA Tech enhances its Title IX information dissemination by posting an electronic version of the NASA brochure, “Nondiscrimination and Equal Opportunity in NASA Assisted Programs: Title VI of the Civil Rights Act of 1964 and Related Laws,” (which includes information on Title IX) on its Diversity@Tech web site.

C. Title IX Self-Evaluation

1. Regulatory Requirements

The NASA Title IX regulations required recipient institutions to conduct a Title IX self-evaluation regarding admissions and treatment of students by September 29, 2001, and to keep the self-evaluation on file for three years.²⁰ While GA Tech is not obligated to conduct a further Title IX self-evaluation, such evaluations are very helpful to ensure, for example, that selection criteria or academic practices do not adversely impact students. They also provide an opportunity to evaluate trends over time and to develop mechanisms for addressing emerging issues.

2. Findings of Fact

GA Tech reports that it has had in place, since 2006, a Title IX Compliance Committee whose charter includes the responsibility to assess “current policies and practices and the effects of such with regard to admissions, treatment of students, and the employment of personnel on campus.” This is consistent with NASA’s self-evaluation regulatory provision. However, it is unclear, aside from information gathered in

²⁰ Self-evaluation, 14 C.F.R. § 1253.110(c).

response to NASA's information request for the instant review, what steps the Committee has taken to meet this mandate.

3. Compliance Assessment

The GA Tech responses to NASA's information request under the instant review constitute the beginning of a Title IX self-evaluation of the AE program regarding two key components: admissions and treatment of students.²¹ In addition, the GA Tech Office of Assessment, in response to a request from the Associate Dean of Engineering and the Title IX Coordinator, undertook an analysis of gender differences among AE respondents on three major surveys: The National Survey of Student Engagement, The GA Tech Undergraduate Exit Survey, and The GA Tech Career and Salary Survey (attached as Appendix B). Some of the key findings of this analysis were:

- No significant differences on the basis of gender on ratings of the quality of relationships with other students, faculty or administrative personnel.
- There were no significant differences on the basis of gender on the ratings of quality of instruction, advisement, and career preparation. (Nor were there differences in ratings of faculty responsiveness to questions or problem resolution.)
- Female respondents were more likely than their male counterparts to report that GT significantly contributed to the development of their mathematics skills, while females reported a lower contribution than did males to the development of their management skills.
- Female respondents reported lower satisfaction than did males with the degree to which GT met their needs in terms of preparation for graduate study.

This very thorough analysis helps to provide AE with a roadmap going forward. It shows the department where its strengths and weaknesses reside. For example, it suggests the department may wish to explore further the lower satisfaction rates among females regarding preparation for graduate study. This will require further analysis on the part of AE, and perhaps consideration of innovative ways to get at the data, such as focus groups or town hall meetings.

AE may wish to build on this excellent start by conducting further efforts to obtain data on critical program processes broken out by gender. The College of Engineering (COE) may wish to use the AE analysis as a pilot for looking at other disciplines within Engineering. (see "Recommendation," this section).

4. Recommendation

Continuing Self-Assessment Efforts. NASA recommends that the AE program build on the excellent start it has made by continuing to examine and evaluate admissions, enrollment, retention rates, graduation rates, and other statistical data on a regular basis, consistent with NASA regulations.²² The COE may wish to use the assessment conducted for the AE program as a pilot for similar assessments across its academic departments. The data may be used, as it has been for AE, to identify whether there are concerns or potential barriers to equal opportunity based on gender in any aspect of the program, including admissions, advising and career counseling, classroom instruction and research participation. To the extent it has not done so, AE and other academic departments may wish to look into student perceptions around matters such as sexual harassment prevention and parental and family responsive policies and practices. GA

²¹ 14 C.F.R. § 1253.110(c).

²² This is required under the NASA regulations at 12 C.F.R. § 1253.605. Note that the requirements to collect such data are codified in NASA's Title VI regulations at 14 C.F.R. § 1250.105(b).

Tech's Title IX Compliance Committee, already in place, may serve as a focal point for such efforts, in coordination with the Office of Assessment. With regard to AE itself, as the data show lower satisfaction rates among women undergraduates as far as preparation for graduate school, as well low or declining numbers of women in the graduate program, AE needs to explore the reasons for these issues. Undertaking such analyses on a regular basis will enable the School and the University to stay informed on emerging trends and react appropriately.

5. Promising Practice

Collaboration on Data Gathering and Analysis. The collaboration between the Office of the Dean of Engineering, the Office of Assessment, and the Title IX Coordinator, is an excellent example of cohesive efforts to accomplish an important Title IX related objective. By working together, these three different areas within the University bureaucracy were able to gather appropriate data and conduct meaningful analysis on issues of gender and STEM. GA Tech may wish to replicate this throughout COE and in other academic areas as well (see "Recommendation," this section).

D. Recruitment and Outreach, Admissions, Enrollment, Assistantships, and Degrees Earned

1. Regulatory Requirements

The NASA Title IX regulations state that recipients may not discriminate on the basis of sex in admissions and recruitment.²³ Consistent with this requirement, NASA reviewed the AE program's student recruitment practices and examined male and female participation rates in the areas of admissions, enrollments, departures, and degrees earned, as well as outreach efforts undertaken by the program. For the AE graduate program, NASA also reviewed funding of students through research and teaching assistantships. The review was based on five years of data provided by the University (Academic Year (AY) 2003-04 through AY 2007-08), with National Science Foundation and Department of Education data used for comparison benchmarks.

2. Findings of Fact

a. Recruitment and Outreach

GA Tech participates in recruitment of undergraduate students primarily through a series of outreach events organized by the University and the COE that bring high school students to campus. Approximately 90 students and their parents are hosted eight times per year through events called "Connect With Tech." A similar event specifically for female students called "Girls Night Out" is held once a year. During these events, information regarding academics, financial aid, housing, campus security, co-op education, admissions, and other areas of interest to college-seekers are covered in detail. AE sends faculty, staff, and student leaders to these events and conducts media presentations and round-table discussions.

Another recruitment activity taken to attract more female students is conducted by the COE's Women in Engineering Program. Over a two day period, attendees hear directly from GA Tech's faculty and current students about the 12 engineering majors offered at GA Tech. They also have an opportunity to interact with a panel of professional female engineers, to ask questions and learn about their work.

Other than from their own undergraduate program, the AE graduate program recruits only from the pool of students who initiate contact and/or apply for admission. Exceptional applicants, resident in the U.S., are invited for a two day visit to campus, paid for by the COE. Faculty members who are interested in

²³ Admission, 14 C.F.R. §1225.300; Recruitment § 1253.310.

particular applicants are encouraged to remain in touch with them via telephone and/or email. In addition, female applicants who have been admitted, are contacted by current female graduate students and professors to offer information and advice.

University officials stated that the effectiveness of both the undergraduate and graduate recruitment efforts is measured by the year-to-year increase in the number of women applicants who are admitted into the program, and by growth in the percentage of women students.²⁴

One final note regarding the program's outreach and communications efforts: the AE web site does not do a good job of showing images of gender diversity. While this may seem a small matter, it should be recognized that program web sites are often the first exposure prospective students will have to visual and other detailed information about the program. To the extent that the level of gender diversity portrayed in the web site's images may have an effect on a prospective student's perception of how welcoming and inclusive the program is, AE may wish to consider enhancing its web site with an eye toward displaying the diversity of the program (see "Recommendations," this section).

b. Admissions

Admission to the undergraduate program is centrally managed by the Office of Admissions; criteria include: high school GPA, rigor of curriculum, standardized test scores, extra-curricular leadership and activity record, and a personal essay.

Graduate admissions are managed by the AE program. Criteria include: grade point average of 3.0 or above; Graduate Record Exam (GRE) scores of 700 or above; research interest, and experience. Undergraduate honors students are automatically admitted to the AE graduate program upon finishing their BS without the need to take the GRE. Graduate admission decisions are made by the Associate Chair for Graduate Studies and Research, in consultation with AE faculty.

NASA reviewed application and acceptance rates to the AE undergraduate and graduate programs for AYs 2003-2007, as well as matriculation rates for the graduate program.²⁵ At the undergraduate level, 15.6 percent of the freshman applicants were women, and 13.9 percent of the transfer applicants were women. Of the freshman applicants, 166 women were accepted (14.2 percent of the total), along with 26 female transfer students (10.5 percent of the total). Acceptance rates for female freshman applicants have been consistently between 13 and 15.5 percent over the five year period, with the highest acceptance rate in AY 2008. Conversely, acceptance rates for female transfer students have varied between 3 and 17 percent, with the highest rates occurring in AY 2003 and 2004. In AY 2007, only one of 31 female transfer applicants was accepted (3.2 percent).

At the graduate level, a total of 1,797 applications to the graduate AE program were received over the five year period, including 243 from women (13.5 percent) and 1,554 from men (86.5 percent). The percentage of female applicants increased steadily from AY 2003 (12.1 percent) through AY 2006 (15.6 percent), but declined to a five year low in AY 2007 (11.4 percent)

Of the 243 female applicants, 128 were admitted into the Program (52.7 percent admittance rate), compared to 842 of the 1,554 male applicants (54.2 percent admittance rate). The number of women admitted to the graduate AE program peaked in AY 2005 at 31, and declined to 25 in each of the next two years.

²⁴ "Title IX Compliance Review: Supplemental Information Request," information provided to NASA by GA Tech Human Resources in October 2009, p.3.

²⁵ All University data used in this section was provided by GA Tech in September 2008 and October 2009.

Of the female applicants who were admitted, 72 of them (56.3 percent) matriculated into the program, compared to 487 of the males (57.8 percent) who matriculated. Matriculation rates for females peaked in AY 2006 when 18 of the 25 women who received offers went on to enroll in the program (72.0 percent).

c. Enrollment and Departures

NASA examined enrollment rates in the AE undergraduate and graduate programs for AYs 2003-2007. At the undergraduate level, female participation in the program remained at around 14 percent over the five year period. At the graduate level, female enrollment in the program increased steadily during the five year period, from 39 (10.7 percent) in AY 2003 to 69 (14.4 percent) in AY 2007. Female enrollment for the entire five year period was 13.2 percent.

NASA also reviewed departures from the undergraduate and graduate programs, including both changes of major and those who left the University. At the undergraduate level, 11.9 percent of the departures over five years were women, a rate lower than their enrollment rate of 13.8 percent. At the graduate level, women comprised 18.0 percent of the departures during the five years, a higher rate than their enrollment rate of 13.2 percent.

d. Graduate Assistantships

NASA also compared research and teaching assistantships awarded to males and females by the AE program for AYs 2003-2007. Over the five year period, women received 14.1 percent of the research assistantships (slightly higher than their enrollment rate) and 12.3 percent of the graduate teaching assistantships (slightly lower than their enrollment rate). However, in the most recent year reported, women received 12.7 percent of the research assistantships and 27.3 percent of the teaching assistantships (vs. 14.4 percent enrollment rate).

e. Degrees Earned²⁶

At the undergraduate level, 73 AE women earned bachelor's degrees during the five year period, for 12.9 percent of the total bachelor degrees. In addition, 79 women earned graduate degrees (master and doctorate) during the same period, for 12.1 percent of the total graduate degrees. The peak year for women earning undergraduate degrees was in AY 2005 (16.5 percent) and for advanced degrees was in AY 2004, (14.0 percent). In the most recent year reported, AY 2007, women earned 11.0 percent of the bachelor degrees and 13.1 percent of the graduate degrees.

3. *Compliance Assessment*

a. Undergraduate Program

NASA compared the percentage of degrees earned by female AE students at GA Tech with national averages published by the National Science Foundation (NSF). In 2006, 16.0 percent of bachelor degrees earned nationally by AE students were earned by women,²⁷ compared to GA Tech's 11.3 percent. This is especially troubling because the percentage of AE bachelor degrees earned by women at GA Tech declined further to only 11.0 percent of the total bachelor degrees earned in AY 2007.

²⁶ In recognition of the difference between "graduation rate" and "percent of degrees earned," NASA also looked at Department of Education (National Center for Education Statistics, IPEDS Data Center) data for AE degrees earned at GA Tech. The IPEDS data for AE degrees earned at GA Tech is comparable and consistent with the graduation rate data provided by the University.

²⁷ National Science Board. 2010. *Science and Engineering Indicators 2010*. Arlington, VA: National Science Foundation (NSB 10-01), Table 2-12.

There are several potential reasons for why GA Tech's female AE bachelor degree rate is below the national average. First, the female freshman *application rate* (15.6 percent over five years) is lower than the national *percentage of degrees earned* by female AE undergraduates of 16.0 percent. In only one year was GA Tech's female freshman application rate for AE higher than 16.0 percent, and that was AY 2003-04. The percentage of applications from women in AE has steadily declined since that time. Since not all applicants are accepted, and not all accepted applicants go on to graduate, the low percentage of AE female freshman applicants puts GA Tech below the national average at the very beginning of the pipeline.

The low female freshman AE application rate is exacerbated by an even lower application rate of female AE transfers (13.9 percent over five years). Further, the five year acceptance rate for female AE transfer students is only 10.5 percent, which pulls down the overall acceptance rate for female undergraduate AE applicants to 13.5 percent, again, well below the national average of AE undergraduate degrees earned by women.

The low percentage of female AE applicants calls into question the effectiveness of the COE recruitment programs. As noted above, the University stated that it measures the effectiveness of its recruitment programs by year-to-year increases in the number of women applicants who are admitted into the program and growth in the percentage of enrolled female students. In the period reviewed, acceptance rates of female AE applicants (freshman and transfer students combined) declined *every year* between AY 2003 and AY 2007. Likewise, enrollment rates of female AE undergraduates declined in three of the five years reviewed, and their enrollment percentage at the end of the review period was exactly the same as it was at the beginning (14.1 percent).

Regarding outreach efforts, specifically in the communications and information dissemination context, NASA notes that the program web site plays an important role in outreach to students and prospective students. This web site may very well be the first impression a prospective student has with the program, especially at the undergraduate level. The AE program informed NASA that it plans to revamp its web site. However, despite the AE program's revamping of its web site, the web site still shows few images of gender diversity.(see "Recommendations," this section).

b. Graduate Program

According to the NSF, 17.5 percent of graduate degrees in aerospace engineering were earned by women in 2007. At GA Tech, 12.1 percent of graduate degrees in aerospace engineering were earned by women. The potential reasons for GA Tech's percentage being lower than the national average are very similar to the reasons cited above for the undergraduate program, i.e., a low female application rate (13.5 percent), and a low percentage of women accepted into the program (13.2 percent of total acceptances). It should be noted that as a percent of their gender group, female applicants are accepted at a rate comparable to male applicants (52.7 percent v. 54.2 percent). Also, females who are made offers matriculate at rates comparable to males (56.3 percent v. 57.8 percent). Thus, the crux of the problem, in terms of the low percentage of AE graduate degrees being earned by women, appears to be the initial low application rate.

At the graduate level, neither the COE nor the AE program conducts targeted recruitment to increase the number of female applicants. Recruitment efforts take place *after* students have applied. This approach is not yielding sufficient numbers of female applicants for GA Tech's AE program to match national averages. In terms of GA Tech's recruitment effectiveness measure, offers to female applicants increased in all but one of the five years reviewed. The admittance rate for females was higher at the end of the five years (13.6 percent) than at the beginning (10.5 percent), but declined from the peak achieved in AY 2005 (17.7 percent). Likewise, female enrollment in the graduate program has trended upward over the five year period, but the final year enrollment of 14.4 percent is slightly down from the high of 14.7 percent in AY 2006.

In terms of research and teaching assistantships, NASA found women to be receiving assistantships at rates consistent with their enrollment. The only concern in this regard is the lower percentage of research assistantships awarded to women in AY 2007 (12.7 percent) and the unusually high percentage of teaching assistantships awarded to women (27.3 percent). Because research assistantships are generally more sought after, the AE program needs to monitor assistantship data to determine if AY 2007 was an anomaly.

4. Recommendations

- a. National Recruitment Targeting Women. NASA recommends that the CoE and AE program expand their recruitment efforts and utilize recruitment events that target women, such as the National Society of Women Engineers' (SWE) annual Career Fair. AE should send faculty and students to recruit at these events.
- b. Broader Recruitment Efforts by AE Faculty. NASA recommends that all AE faculty members become more proactive in contacting prospective graduate students, rather than relying on students and female faculty members to contact them. In this way, they can ensure they are talking with interested male and female students.
- c. Greater Gender Diversity on Program Website. The AE program should consider displaying images showing the gender diversity of the program. The AE website is often the first impression prospective students have of the School. In this regard, showing gender diversity may help prospective students to view the program as welcoming and inclusive regardless of gender.
- d. Review of Transfer Student Data. AE should review data for transfer students for the past few years and ensure that the low acceptance rate of female transfer students is not the result of unintentional subtle gender bias.
- e. Increased Number of Female Faculty. NASA recommends that AE continue its efforts to increase the number of female faculty to the extent that faculty positions are available. The increase in female faculty will help signal to prospective female applicants that women are welcome in the program.

5. Promising Practice

Organized and Active Women in Engineering Program. The GA Tech COE has a vibrant Women in Engineering (WIE) Program that receives active support from leadership and faculty. The WIE Program also partners effectively with private sector firms such as IBM and local engineering firms. Among the many activities and initiatives currently being undertaken by the WIE Program in collaboration with its internal and external partners are: an annual two-day conference for prospective female students, providing an opportunity to interact with a panel of professional engineers; and the "Introduce a Girl to Engineering" program, held every February, in which WIE in collaboration with IBM and several local engineering firms hosts female middle school students from the state of Georgia for a Saturday program/luncheon that provides students with hands-on experience and interaction with female professionals including GA Tech alumna and engineering students.

In addition, AE and other COE faculty have been instrumental in working with students on issues related to gender and STEM. This has included the organization of social events imbued with a strong focus on career and professional development. For example, these events have included panel discussions with graduate students describing their efforts and experiences to undergraduates, and discussions designed to provide critical information on everything from applying for fellowships and jobs to grant proposal writing.

E. Program Administration and Academic Environment

1. Regulatory Requirements

The NASA Title IX regulations provide that a recipient shall not, on the basis of sex, exclude from participation in, deny the benefits of, or otherwise limit any person in any advantage or opportunity pertaining to academic, extracurricular, research, occupational training, or other education program or activity operated by the recipient.²⁸ The regulations also explicitly state that a recipient may not discriminate on the basis of gender with regard to career counseling or guidance.²⁹

The NASA Title IX regulations include a detailed provision on matters pertaining to marital and parental status.³⁰ Generally, under the regulations, a recipient may not apply any rule concerning a student's actual or potential parental, family, or marital status that treats students differently on the basis of sex. Regarding pregnancy and related conditions, the regulations state that a recipient may not discriminate against any student, on the basis of the student's pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery, unless the student requests voluntarily to participate in a separate portion of the program or activity of the recipient. The regulations require that pregnancy and childbirth be treated in the same manner and under the same policies as any other temporary disability or physical condition.³¹ Further, Title IX requires that in the case of a recipient that does not maintain a leave policy for its students, or in the case of a student who does not otherwise qualify for leave under such a policy, "a recipient shall treat pregnancy, childbirth, false pregnancy, termination of pregnancy, and recovery therefrom as a justification for a leave of absence for as long a period of time as is deemed medically necessary by the student's physician, at the conclusion of which the student shall be reinstated to the status that she held when the leave began."³²

In addition, the Title IX regulations incorporate by reference the NASA Title VI regulatory provision prohibiting a recipient from utilizing methods of administration which have the effect of defeating or substantially impairing accomplishment of the objectives of the program for an individual based on sex.³³

On the basis of these provisions, NASA examined the overall academic environment in the AE program, including academic advising, career counseling, research participation, classroom experiences, parental/marital status ("family friendly") policies and physical safety of the program environment.

2. Findings of Fact

a. Academic Advising and Career Counseling

NASA's interviews with faculty and students regarding graduate advising focused on the experiences of students in the advising process. Male and female graduate students interviewed described positive and productive advising relationships. Students interviewed stated that they observed no differences based on gender in the way they were advised. They also stated that they did not notice any difference based on gender with respect to receiving job search assistance from faculty.

²⁸ Education programs or activities, 14 C.F.R. § 400(a), (b)(7).

²⁹ Counseling and use of appraisal and counseling materials, 14 C.F.R. § 1253.425.

³⁰ Marital or parental status, 14 C.F.R. § 1253.445 and 1253.530.

³¹ Admission, *Prohibitions relating to marital or parental status*, 14 C.F.R. § 1253.300(c)(3).

³² Marital or parental status, 14 C.F.R. § 1253.445 (b)(5).

³³ Enforcement procedures, 14 C.F.R. § 605.

It is noteworthy that a number of students commented on the strength of the advising skills demonstrated by AE faculty, and AE faculty members' high degree of willingness to act as informal mentors. This appears to be particularly true of female faculty. Several students pointed to one or more of the current female faculty members as exemplary in this regard. Faculty and students of both genders said that a female professor in AE and another in a different COE discipline have led the way in being proactive when it comes to gender and STEM issues (see "Promising Practices," this section). No faculty member or teaching assistant stated that a student had come to them with a concern regarding discrimination or harassment in recent memory.

b. Research Participation and Classroom Experiences

NASA spoke with students about their experiences and observations in the lab and the classroom, and with faculty and administrators about their efforts with regard to classroom interactions and research participation of students. Students interviewed reported no observable differences based on gender in the way students are treated.

In GA Tech's AE program, as in most AE programs nationwide, the numbers of female students in the undergraduate programs remain low, at around 14 percent for the last five years (see Sec. II.D.2.c, above). Research literature suggests that undergraduate engineering programs that take steps to incorporate the societal impacts of engineering work into the curriculum, help to make engineering programs more appealing to a more diverse student body (see Appendix A. Summary Literature Review). In this regard, NASA notes that students interviewed, including undergraduate AE students and graduate teaching assistants, stated that some AE faculty do an excellent job of showing the societal impact of engineering in their courses (see "Promising Practices," this section). It also appears the undergraduate AE program does an excellent job of having gender diverse guest speakers in its Introduction to AE survey course, so that both males and females are exposed to role-models of both genders.

c. Parental/Marital Status ("Family Friendly" Policies)

GA Tech reports that it does not have written family leave policies for students. According to AE faculty and students, the School makes every effort to informally accommodate the needs of students who need time off for family-related reasons. The University has an on-campus daycare center and "family" housing for graduate students.

d. Safety

During interviews, students mentioned that the GA Tech Police Department (GTPD) offers a night-time escort service for transport from campus buildings. The campus shuttle service offers the Stingerette, which is a shuttle bus service that runs during the evenings. Several students mentioned that there has been a recent crime spike across the city that has touched the campus and that GTPD is working with Atlanta PD on this issue.

Regarding matters such as sexual assault and other violent crimes that disproportionately affect women on campuses nationwide, GA Tech has a Women's Resource Center, established in 1998. Part of the mission of the Center is to assist students in crisis, particularly sexual assault, sexual harassment, stalking, and dating/domestic violence situations (see "Promising Practices," this section).

e. Overall Academic Environment

While the numbers of women in the AE program remain low, it appears the program undertakes active efforts to create a welcoming and inclusive atmosphere for all students. For example, the GA Tech COE has a well-organized and very active Women in Engineering (WIE) Program that receives the full support of the COE leadership and faculty (see “Promising Practice,” Sec. II.D.5, above). All of the COE’s engineering programs, including the AE program regularly involve faculty and students in outreach activities designed to increase the number of women in the program. One concern raised by staff was the need for greater coordination and collaboration among stakeholder programs, such as WIE, the Women’s Resource Center, and the Title IX Coordinator’s office (see “Recommendations,” this section).

NASA learned that much has changed for women at GA Tech over the past 20 years. According to the Director of the Women’s Research Center on campus, women at the institution today want to be seen as GA Tech students rather than female students. However, she reported some women students still raise concerns regarding comfort level in classrooms and study groups that may be related to their small numbers. These concerns were echoed in interviews in which both faculty and students agreed that in some cases, it appears women are less participatory in class and study groups, perhaps because they feel “an extra pressure of being in the minority.” A few female students in fact said that they felt there is an additional pressure to prove themselves in class discussions and study sessions. They said this pressure normally manifests itself in the form of speaking up more in class rather than less, although they also said they are more likely to answer a question than ask a question out of fear of “looking stupid.” However, it should be reiterated that NASA was not able to interview a large number of students while on-campus, so this reflects a relatively small percentage of program students. In addition there was consensus among faculty and students interviewed that in many cases women are just as, if not more, participatory in program settings than the men. Nonetheless, AE may wish to look more closely at student perceptions of the academic environment broken down by gender (see “Recommendations,” this section).

A couple of other concerns of an environmental nature were raised. For example, NASA obtained information about issues regarding the level of respect accorded female faculty and administrative staff by some male students, particularly students from Eastern cultures.³⁴ The issue is well-demonstrated by the difficulty some of these male students appear to have with addressing a female professor as “Dr.” or “Professor,” as opposed to “Miss” or “Ma’m.” On a related note, one male professor described having to take some of the Eastern acculturated male students aside and counsel them based on complaints received from female administrative staff about the students’ interactions with the staff. While the University cannot police interactions between students and faculty/administrative staff, and while these incidents appear to be instances of cultural misunderstandings, the School can take steps to better ensure that all students accord all faculty and staff with the same level of respect and deference, regardless of gender. For example, the School may wish to consider, in coordination with the Title IX coordinator’s office, increased education and awareness activities for both professors and students (see “Recommendations” under “Designation of Responsible Official for Title IX Coordination and Enforcement, Sec. II.A.4.c, above).

Another concern is the lack of training provided for graduate teaching assistants on matters such as bias and harassment. No graduate teaching student interviewed recalled receiving such training. Moreover, an undergraduate student stated that the only instance of gender bias she could recall in her time in the AE program was displayed by a graduate teaching assistant. The AE program, and the larger COE, may wish to consider better ensuring that faculty and students, especially graduate students in positions of responsibility, receive training on diversity and equal opportunity (see “Recommendations.” Sec. II.D4.c).

³⁴ Faculty interviewees used this term to refer to students from countries in Asia and Asia Minor, for example, China, India, and the countries of the Middle East.

3. Compliance Assessment

NASA examination of whether students were treated differently or otherwise limited, on the basis of gender, with regard to academic advising and research participation showed no differences between males and female students' experiences. The same is true of the classroom and program setting except insofar as the level of respect accorded by some male students to female faculty and administrative staff.

Regarding family-friendly policies and related faculty/student experiences in the AE program, NASA's review indicated that AE is generally supportive in these matters. For example, the University has an on-site daycare center. A few professors said that when they have had graduate students who have needed leave because of pregnancy or new parenting responsibilities, they have been as accommodating as possible. However, NASA did not speak to any students who had availed themselves of parental, family, or pregnancy/childbirth leave. In general, the lack of a written policy is a concern. This is particularly the case where Title IX has explicit regulatory provisions, as it does regarding matters of parental and related family matters.³⁵ GA Tech should develop clear, well-communicated, family-responsive policies for all classes of researchers, i.e., faculty, post-doctoral and graduate students (see "Recommendations," this section).

Regarding GA Tech safety policies and student experiences in AE, NASA's review did not indicate that any student's participation in the program was limited based on gender with regard to University or AE program safety/security policies and procedures. Some general concerns were raised regarding the recent city-wide crime spike, with concerns expressed by both males and females. No specific recommendations were offered by students or faculty for what additional steps the University might take to better ensure safety, with a general consensus that appropriate steps are currently being taken.

As to the overall academic environment, NASA's review indicates that AE provides a generally supportive environment for students, regardless of gender, and makes concerted efforts in this regard, for example, through the efforts of the WIE Program. However, as mentioned above, there is some concern regarding student perceptions of the environment and the level of education and awareness regarding instances of subtle gender bias on the part of some male students (see "Recommendations" under "Designation of Responsible Official for Title IX Coordination and Enforcement, Sec. II.A.4.c, above).

4. Recommendations

a. Student Perceptions Regarding the Academic Environment. To the extent that COE and/or the AE program has already conducted a climate or environment survey with responses broken down by gender, the University may wish to better ensure that the results of this and other climate surveys are conveyed to heads of Schools, along with guidelines for how such information may be utilized to make policy decisions. To the extent that it has not already done so, the University may wish to gather more data on students' perceptions of their environment and examine it by gender. For example, the AE program, in collaboration with the larger COE and the GA Tech Office of Assessment, may wish to develop and deploy an engineering climate survey, with data broken down by gender (and other demographics) to better understand student perceptions of the program environment and what may be done to address any negative perceptions. The survey might address such matters as general responsiveness of leadership and faculty to student concerns, perceptions around whether family-friendly, safety, and sexual harassment prevention policies are adequately meeting student needs and concerns, perceptions of how students view their own abilities, and additional efforts students believe the institution might take to better assist student assimilation into the program. In addition, and to the extent that it has not already done so, the AE

³⁵ Marital or parental status, 14 C.F.R. § 1253.445, .530, .235(d), .300(c)(3).

program may wish to conduct a review of its recent senior exit surveys and alumni surveys to determine whether there are any differences along gender lines, and if so, determine what steps may need to be taken to address such differences. (see also, “Recommendation,” II.C.4, above)

b. Greater Collaboration Among Stakeholders. GA Tech should consider ways to ensure greater collaboration among the various gender and STEM stakeholders, such as the Women in Engineering Program, the Women’s Resource Center, and the Title IX Coordinator’s office. This might be based on the establishment of a central focal point, perhaps residing in the Office of Diversity and Inclusion, to ensure a more collaborative structure and more coordination among the various programs. Alternatively, the Title IX Compliance Committee already in place might serve to accomplish this objective. For optimal impact, the overarching goals of such a collaborative enterprise should be the gathering and analysis of information, the formulation of institutional policy, and the development and deployment of activities pertaining to critical issues, such as outreach and recruitment, and education and awareness.

c. Parental Leave and Family Responsive Policies. In the context of University employees, including faculty and graduate teaching and research assistants, GA Tech’s Title IX Coordinator, in consultation with the University’s legal office, should undertake a review to ensure that GA Tech is in compliance with Title IX regulatory provisions pertaining to parental status and related family matters (see 14 C.F.R. §§ 1253.445, .530, 235(d), and 300(c)(3)). In addition, GA Tech should review the recent enforcement guidance of the U.S. Equal Employment Opportunity Commission on unlawful disparate treatment of workers with care-giving responsibilities (accessible at <http://www.eeoc.gov/policy/docs/caregiving.html>), to ensure that the University is in compliance with all employment related standards with regard to parental and family matters that may affect faculty and students employed by the University.

5. Promising Practices

a. Incorporation of Societal Impacts of Engineering into the Undergraduate Curriculum. Overall the AE undergraduate program does an excellent job of showing the societal impacts of engineering work. The AE Undergraduate Chair described in some detail how the program introduces meaningful discussion on such matters. For example, the introductory AE course includes material on economic and environmental impacts, such as emissions, noise pollution, and harmful chemicals from spacecraft solid rocket boosters. These efforts are also well-illustrated by a student’s description of an assignment in an undergraduate class that asked the student to develop the history of a particular engineering concept and the impact that it has had on society, showing the real-world application and the overall societal impact.

b. Women’s Resource Center. GA Tech has a Women’s Resource Center on campus (part of the Office of Dean of Students), established in 1998. The Center works to enhance the academic performance and personal and professional development of women at GA Tech by creating an inclusive and supportive campus environment for women. The Center offers student-led programming on women’s issues, including Women’s Awareness Month and the Women’s Leadership Conference. The Center also provides information and referrals on campus and to community resources. Trained advocates assist students in crisis, particularly sexual assault, sexual harassment, stalking, dating/domestic violence situations, hospitalization, and academic/non-academic issues. These services are offered after-hours as well. The Center currently has two staff members dedicated to working with students who have been stalked, sexually abused, or have been victims of dating/domestic violence.

III. CONCLUSION

NASA finds GA Tech to be in compliance with the Title IX regulations. While this report includes recommendations to assist GA Tech in its efforts to ensure equal opportunities regardless of gender, overall we find that GA Tech is meeting procedural regulatory requirements regarding Title IX coordination,

grievance procedures, policy dissemination, and self-evaluation efforts. Of note as a promising practice in this regard is the institution's establishment of a Title IX Compliance Committee, whose members are appointed by the President. However, we note also that the University does not have formal policies regarding parental and related family matters, as specified in the Title IX regulations. Accordingly, NASA recommends the University address this issue by undertaking a careful review to ensure compliance with Title IX in this regard.

The AE program does not have high participation rates of women. Like many of its counterparts nationwide, AE faces challenges in attracting and retaining women at all levels, from undergraduate students to faculty. NASA has provided recommendations regarding appropriate outreach and recruitment activities to address this issue. It also appears that the overall academic environment within AE may benefit from stronger education and awareness efforts around gender-related issues that may arise in part as a result of the small number of female faculty and students.

Notably, the institution is taking meaningful steps to address these issues, in part through a thorough Title IX self-assessment process requested by the President under the auspices of the GA Tech Title IX Compliance Committee. NASA's recommendations in this report are designed to help the AE program address both participation rates and environmental issues as the program continues its efforts to ensure equal opportunities regardless of gender.

APPENDIX A. SUMMARY LITERATURE REVIEW

In developing its Title IX onsite review program, NASA conducted a review of literature regarding gender and STEM programs, including Title IX policy and enforcement in the STEM context.³⁶ The review continues to be updated as new research and analysis on gender and STEM emerges. It also continues to assist NASA to better understand concerns regarding gender and STEM and how Title IX compliance efforts can assist to address such concerns.

Recent Reports and Studies

In general the studies and reports NASA reviewed in the literature describe a broad range of gender-related issues in STEM. For example, the 2004 report of the U.S. General Accountability Office (GAO) (referred to above) described participation rates by gender, observing continued low participation for women in certain STEM programs, such as physics and some engineering disciplines. The GAO report also noted the greater drop-off of women as compared to men at every stage, from high school to doctoral programs. The report highlighted the need for steps to help address this, such as strong outreach efforts to increase the interest of younger students in the sciences.³⁷ In addition, the report recommended that agencies with science missions, such as NASA and the U.S. Department of Energy, conduct Title IX compliance reviews to ensure that grant recipient programs are providing equal opportunity regardless of gender.

NASA also relied on a number of scholarly reports and publications. Prominent among these were the National Academy of Sciences, National Research Council report, *To Recruit and Advance: Women Students and Faculty in Science and Engineering* (2006) (hereafter cited as NRC Report), the University of California Berkeley, Center on Health, Economic & Family Security report, *Staying Competitive Patching America's Leaky Pipeline in the Sciences* (2009) (hereafter cited as UC Berkeley Report), and the American Association of University Women's report, *Why So Few? Women in Science, Technology, Engineering, and Mathematics* (2010).

The NRC Report was itself based on a comprehensive literature review and site visits to four universities "recognized for successfully advancing and retaining women students, faculty or leaders."³⁸ This report was also a valuable tool in better understanding women's experiences in science, technology, engineering, and mathematics (STEM) studies and helped to guide NASA's assessment under the instant review of

³⁶ See generally National Academy of Sciences, National Research Council, *To Recruit and Advance: Women Students and Faculty in Science and Engineering* (2006); National Academy of Sciences, National Academy of Engineering and Institute of Medicine, *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering* (2006); American Institute of Physics Statistical Research Center, *Women Physicists Speak Again*, April 2006 (accessible at: <http://www.aip.org/statistics/trends/reports/iupap05.pdf>); Ellen Sekreta, *Sexual Harassment, Misconduct, and the Atmosphere of the Laboratory: The Legal and Professional Challenges Faced by Women Physical Science Researchers at Educational Institutions*, 13 Duke J. Gender L. & Pol'y 115 (Spring 2006); Catherine Pieronek, *Title IX and Gender Equity in Science, Technology, Engineering and Mathematics Education: No Longer an Overlooked Application of the Law*, 31 J.C. & U.L 295 (2005); Government Accountability Office, *Gender Issues: Women's Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX* (July 2004); American Institute of Physics Statistical Research Center, *Women in Physics Speak: The 2001 International Survey of Women in Physics*, 2001 (accessible at: <http://www.aip.org/statistics/trends/reports/iupap.pdf>); Jean M. Curtain, Geneva Blake, and Christine Cassagnau, American Institute of Physics, "The Climate for Women Graduate Students in Physics," *Journal of Women and Minorities in Science and Engineering*, vol. 3, pp. 95-117 (1997); Mildred S. Dresselhaus, Judy R. Franz, Bunny S. Clark, "Improving the Climate for Women in Physics: A Program of Site Visits Funded by the National Science Foundation" (American Physical Society and the American Association of Physics Teachers: 1995) (APS Program Summary, accessible at <http://www.aps.org/programs/women/sitevisits/summary.cfm>) (APS Program Summary).

³⁷ U.S. Government Accountability Office (GAO) report, *Gender Issues: Women's Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX* (July 2004).

³⁸ NRC Report, Summary, p.2.

promising practices regarding recruitment and advancement of women students in STEM programs.³⁹ For example, the report identified the need to create and institutionalize a sustained commitment to diversity among university leaders and administrators.⁴⁰ This commitment should be demonstrated by dedicating resources to that effort, e.g., Women in Engineering programs, and through ensuring visibility for women students and faculty in communications materials and the School's web site, which can help to show that the program is welcoming and inclusive of women.⁴¹ Another key strategy is to extend outreach to students at the K-12 and undergraduate levels in the form of summer science and engineering camps, lecture series, career days, and mentoring programs.⁴²

The NRC Report indicated that specific retention tools such as curricular modifications and “family friendly” policies may also be of assistance in increasing the numbers of women in STEM programs. For example, courses designed to emphasize the societal benefits or “real-world” applications of engineering have broadened the appeal of engineering studies, helping to create more diverse engineering student populations.⁴³ Regarding “family friendly” policies, the UC Berkeley report notes that to be in compliance with Title IX, recipients must: 1) treat pregnancy as a temporary disability for purposes of calculating job-related benefits, including any employer-provided leave, and 2) provide unpaid, job-protected leave for “a reasonable period of time” if the institution does not maintain a leave policy for employees.”⁴⁴ The UC Berkeley report also notes that, to help address family and care-giving issues, institutions should have in place family responsive policies, benefits, and resources, including time-based policies and benefits such as stopping the clock (i.e., tenure-clock extension), various child care supports such as on- and off-campus centers, monetary supplements such as tuition remissions, and other resources such as lactation rooms.⁴⁵

Overall, the UC Berkeley Report, a major study on experiences of women scientists, found that unfriendly family policies—not lack of interest or commitment—are what turn many women away from academic science. Moreover, the report recommended universities adopt family supportive policies for all classes of researchers, not just faculty members, noting that graduate-student researchers and postdoctoral scholars receive the most limited benefits and yet are arguably the most important people affecting the future of U.S. science. In fact, the report found that this is the biggest leak in the pipeline: the point at which women who have received their Ph.D's or are working as postdoctoral scholars are making the critical decision of whether to continue their careers in academic research. According to the report, too many of them are deciding not to, often because of their interest in starting a family.

Another important tool for STEM departments is training to provide education and raise awareness among faculty and students on gender issues such as sexual harassment prevention.⁴⁶ NASA's Title IX compliance review program has shown a number of instances where STEM departments may benefit from targeted training to address issues relating to inappropriate gender-related conduct occurring in program settings, such as study groups, labs, and field trips.

³⁹ NRC stated that it “sought to move beyond yet another catalogue of challenges facing the advancement of women academic in STEM to provide a document describing actions actually taken by universities to improve the situation for women.” *Ibid.*, Preface, p. vii.

⁴⁰ *Ibid.*, chap. 1, p.8.

⁴¹ *Ibid.*, chap. 2, p.47.

⁴² *Ibid.*

⁴³ *Ibid.*, chap. 3, pp. 53 (citing Busch-Vishniac, I., and J. Jarosz, *Can diversity in the undergraduate engineering population be enhanced through curricular change?* *Journal of Women and Minorities in Science and Engineering* 10:255–281, 258 (2004)), 55, 60 (citing Farrell, E. F., “Engineering a warmer welcome for female students,” *Chronicle of Higher Education*,” February 22, 2002).

⁴⁴ UC Berkeley Report, p. 5 (citations omitted).

⁴⁵ *Ibid.*, p. 6.

⁴⁶ NRC Report., chap. 4, p. 78

The NRC report also described issues that “may not be anticipated” influencing the working environment of the laboratory.⁴⁷ For example, personal safety issues may be different for women working alone at night in a lab. One faculty member interviewed by NRC commented that whereas general safety issues had been “background noise,” as he put it, the issue of personal safety became a much higher priority when women students joined the lab.

Title IX compliance reviews are also recommended in the literature as a means of addressing environmental issues that may negatively impact women in STEM. For example, the AAUW report *Why So Few* states that “Title IX reviews can help identify institutional policies and practices that negatively, and in some cases inadvertently, affect personal choices in gender-specific ways. Simply put, Title IX can help create a climate where women and men of similar talent who want to be scientists or engineers have equal opportunity to do so.”⁴⁸

Overall Recommendations

What the research literature tells us is that there are some proactive steps that STEM programs can take, consistent with the purpose and intent of Title IX, to recruit and retain students in these fields, and provide equal opportunities regardless of gender. A small sampling of these steps, representative of the larger themes in the literature on women and STEM, include:

- Engaging in targeted outreach and recruitment;
- Establishing mentoring programs;
- Sustaining strong partnerships with campus professional organizations, such as Women in Engineering;
- Adopting policies that enable faculty, students and employees to combine work, family and other personal responsibilities.
- Conducting on-going self-evaluation efforts consistent with Title IX regulations, that is, a focus on admission and treatment of students, and employment .

Overall, NASA has found that *Title IX compliance efforts of educational institutions can help to address concerns* regarding gender and STEM. For example, effective Title IX coordination can establish collaborative partnerships between the Title IX Coordinator’s office and academic departments, ensuring, among other things, appropriate training for faculty and students. Effective Title IX coordination may also ensure that individuals fully understand the process for addressing discrimination concerns, and how to avail themselves of it.

In addition, periodic self-evaluation can greatly assist efforts to identify concerns regarding admission and treatment of students, and help programs to address problem areas in a host of specific areas, from stronger outreach and recruitment efforts, to greater transparency in program policies and practices, to program participants’ perceptions of the program environment. NASA has found that the process of a Title IX review itself provides schools with an excellent opportunity to step back and assess their programs in these respects.

⁴⁷ Ibid., chap. 2, p. 41.

⁴⁸ AAUW Report, p. 13 (citations omitted).

APPENDIX B. GEORGIA INSTITUTE OF TECHNOLOGY, TITLE IX REPORT ON GENDER DIFFERENCES IN AEROSPACE ENGINEERING SURVEY RESULTS

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The Office of Assessment undertook an analysis of gender differences among Aerospace Engineering (AE) respondents on three major surveys: The National Survey of Student Engagement, The Georgia Tech Undergraduate Exit Survey, and The Georgia Tech Career and Salary Survey. A summary of the findings is presented this section. A detailed list of the survey items used in this analysis is available upon request.

National Survey of Student Engagement

The National Survey of Student Engagement (NSSE) is designed to measure the extent to which students report that they are engaged in empirically-demonstrated effective educational practices and what gains (or perceptions of gains) they make through their college experiences. The survey is given in the Spring semester to First-Year and Senior students. In order to create an appropriate sample of AE majors, results from the 2005, 2007 and 2008 NSSE administrations were combined. We chose to concentrate only on senior students, as these students have had the most experience within their major. A total of 98 males and 23 females comprised the sample. For each item on the NSSE, an equality of variance and a t-test of the means for the male and female respondents was performed. Among the findings:

- There were no significant differences on the basis of gender on ratings of the quality of relationships with other students, faculty or administrative personnel (females tended to rate these relationships higher than male respondents, however none of these differences were significant at the $p < .05$ level)
- There were no significant differences on the basis of gender on the ratings of quality of academic advising.
- There were no significant differences on the basis of gender on the evaluation of the entire educational experience at Georgia Tech.
- Female respondents were more likely to report frequent discussion of their career plans with faculty members than were male respondents ($p < .01$)

Georgia Tech Undergraduate Exit Survey

The GT Exit Survey is administered to students as part of the degree petition process. It seeks to measure self-reported gains in knowledge, skills, and abilities, as well as satisfaction with various aspects of the curriculum and experiences in the GT community. While the response rate to this survey is fairly high, students are not required to self-identify. Consequently, this analysis was conducted only on those students who provided a GT identification number (from which one could determine gender). Again, to create an appropriate sample, the results of the 2006-2009 academic years were combined. The resulting sample contained 20 female students and 140 males. As with the NSSE, an equality of variance and a t-test on the means for the two groups was performed. Among the findings:

- There were no significant differences on the basis of gender on the ratings of quality of instruction, advisement, and career preparation. Nor were there differences in ratings of faculty responsiveness to questions or problem resolution.
- There were no significant differences on the basis of gender on willingness of recommend either Georgia Tech in general or the AE program specifically to a friend or relative.
- Female respondents were more likely than their male counterparts to report that GT significantly contributed to the development of their mathematics skills, while females reported a lower contribution than did males to the development of their management skills.
- Female respondents reported lower satisfaction than did males with the degree to which GT met their needs in terms of preparation for graduate study.

Career and Salary Survey

The GT Career and Salary Survey is administered to determine students' post-graduation plans, particularly in regard to employment and further education. For those graduates reporting employment offers, the survey inquires about starting salaries and bonus offers. The survey is administered online to all degree candidates every fall and spring semester. The analysis was performed on all AE baccalaureate respondents in academic years 2006-2009. A total of 209 males and 104 females comprised the sample. Among the findings:

- There were no statistically significant gender differences found on the placement rate of AE graduates: 69.2 percent of females reported employment upon graduation, compared with 58.1 percent of male respondents (Chi-square=2.19; p=0.14).
- There were no statistically significant gender differences found on the percentage of respondents who elected to pursue graduate degrees: 31.7 percent of females indicated they had applied or been accepted to a graduate program, compared with 41.0 percent of males (Chi square=2.61; p=0.11)
- For those who reported a starting salary (35 females, 50 males), there were no significant differences by gender in salary (mean salary for females: \$55,364; males: \$53,628).