University of California at Berkeley
Department of Physics
Title IX Compliance Report

Office of Diversity and Equal Opportunity
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I. INTRODUCTION

NASA conducted a compliance review of the University of California at Berkeley (Berkeley or the University) Department of Physics (Physics, the Department, or the program), 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 2005 authorizing legislation requires the Agency to conduct at least two Title IX compliance reviews annually.\(^4\) Since 2006, NASA has conducted numerous onsite Title IX compliance reviews at university and college science and engineering programs receiving NASA funding across the country.

B. Objectives and Scope

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

Objective 1: Evaluation of the University of California at Berkeley’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 Berkeley program under review; and
- Evaluate the Physics Department's provision of equal opportunity regardless of gender in the following areas of program administration: student and faculty recruitment, outreach, admissions, enrollment, retention, academic

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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), reenacted as 51 U.S.C. § 40909 (2011). Note that NASA’s most recent authorizing legislation does not include this provision; however, as the original provision had no sunset clause, we continue to seek to meet the 2005 requirement.
advising, research participation, classroom and lab experiences, student experiences relating to parental/marital status (“family friendly” policies and practices), physical safety of the program environment.

Objective 2: Identification of promising practices of the University of California at Berkeley and the Physics program designed to promote gender equity, specifically to:

- Describe efforts consistent with the recommendations and focus of the July 2004 GAO report; and
- 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. 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 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 onsite visit to interview university officials, program faculty, and students. NASA also developed a summary Title IX literature review to better understand national concerns regarding gender in science, technology, engineering, and mathematics (STEM) fields as well as strategies recipients should undertake to address such concerns, including stronger Title IX compliance efforts in the STEM context. In addition, NASA developed an online survey or Title IX Compliance Review Data Collection tool that is normally deployed to program students as a key part of our Title IX compliance reviews. However, Berkeley, through the Dean of the College of Letters and Science (CLS), declined to participate in the survey.

2. Onsite Compliance Review Activities

The NASA compliance team conducted an onsite review of the Berkeley Physics Department on September 10-12, 2013. During its visit, the compliance team conducted one-on-one interviews with Dr. Angy Stacy, Associate Vice Provost for the Faculty; Dr. Mark Richards, then-Executive Dean, CLS; Dr. Gabor Basri, then-Vice Chancellor for Equity, Inclusion and Diversity; Dr. Hallie Hunt, Director, Center for Student Conduct and Assistant Dean of Students; and Dr. Collette Patt, Director, Student Diversity Program, CLS. The team also interviewed eight Physics faculty members (four male faculty members, including Dr. Steven Boggs, Chair, and four female faculty, including two former Chairs). NASA also spoke with two female

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5 This document is accessible at: [http://missionstem.nasa.gov/docs/Title_IX_Summary_Lit_Rev_6-3-13_TAGGED.pdf](http://missionstem.nasa.gov/docs/Title_IX_Summary_Lit_Rev_6-3-13_TAGGED.pdf)
Physics Post-Docs, 15 Physics graduate students (10 female graduate students, five male graduate students) and six undergraduate students (one male and five female undergraduates). NASA staff communicated on a regular basis during all phases of the review with Denise Oldham, Director and Title IX Coordinator, Office for the Prevention of Harassment and Discrimination (OPHD).

II. COMPLIANCE REVIEW ANALYSIS

The compliance review analysis provides an assessment of issues within the two focus areas of procedural compliance requirements and methods of program administration. Regulatory requirements and findings of fact are set forth as part of the compliance assessment under each main topic. The associated recommendations are intended to strengthen existing compliance activities. Promising practices associated with each of the compliance areas are also reported.

NASA notes at the outset that in late 2014, the OCR opened a campus-wide Title IX investigation into the University's procedures on and responses to allegations of sexual harassment and sexual violence. The compliance analysis that follows reflects NASA's own interpretation of its Title IX regulations and is focused on NASA's more limited review of the Physics Department, initiated in 2013. This compliance report does not reflect OCR's views on the University's compliance with Title IX. Nonetheless, NASA has taken steps to ensure as much conformity as possible with OCR efforts, for example, coordinating on the scope of the two agencies' reviews and utilizing OCR's Title IX guidance as a fundamental component of NASA's compliance analysis.

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

1. Compliance Assessment

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.” The recipient must notify all students and employees of the Title IX Coordinator's name, office address, and telephone number.

Title IX Coordinator and Contact Information Dissemination

The Berkeley Title IX Coordinator is formally the Director, OPHD. She reports that her contact information is included in all University of California system-wide nondiscrimination policies and policy statements, for example, those included in websites for job applicants. During onsite interviews, the compliance team sought to determine the extent to which Physics students, faculty and staff were aware of the Title IX Coordinator, her office and the purpose of her office. The compliance team found, by and large, students and faculty interviewed were not familiar with the office, that is, OPHD, or the name of the Title IX Coordinator. This in and of itself is not unusual, given that students and faculty on large campuses are rarely familiar with the institution’s Title IX compliance officials. However, it does suggest the need for greater efforts on the part of the Title IX Coordinator to do more to publicize her contact information, her office and its purpose (see Recommendations, below).

6 Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(a).
**Effective Title IX Coordination: Oversight of the Grievance Process, Authority/Access to Senior Leadership, and Training Efforts**

While the NASA Title IX regulations do not provide further specificity regarding the role and effective functioning of the Title IX Coordinator’s role, 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 regulatory provision.7 These additional considerations appear in DOJ’s document, “Questions and Answers Regarding Title IX Procedural Requirements” (Title IX Q&A).8 More recently, in April 2015, OCR has offered a Dear Colleague Letter and Resource Guide specifically addressing Title IX coordination, focusing on the authority, responsibilities and training of Title IX Coordinators.9 In addition, effective Title IX coordination is one of a number of key Title IX requirements addressed in OCR’s April 2014 guidance, ”Questions and Answers on Title IX and Sexual Violence” (April 2014 Q&A).10 As its title indicates, this guidance clarifies and expounds on Title IX requirements in the context of addressing sexual violence, but it contains valuable guidance for compliance with a host of Title IX requirements. These are critical documents with which Title IX Coordinators should be well-versed.

**Title IX Coordination Compliance Requirements.** In addition to the contact information dissemination requirement, for purposes of this review, NASA focused on the following key aspects of Title IX coordination:

1. Effective functioning, including skills, competencies, and continuous improvement regarding the key responsibilities of administrating and implementing the University’s Title IX grievance process;
2. The authority, access, and visibility of the Title IX Coordinator, including access to university senior leadership, needed to effectively perform roles and responsibilities; and
3. Appropriate training of faculty, staff, and students.

Regarding core aspects of effective functioning of Title IX coordination, including appropriate skills and competencies, OCR’s April 2014 Q&A states that: “A Title IX coordinator’s core responsibilities include overseeing the school’s response to Title IX reports and complaints and identifying and addressing any patterns or systemic problems revealed by such reports and complaints. This means that the Title IX coordinator must have knowledge of the requirements of Title IX, of the school’s own policies and procedures on sex discrimination, and of all complaints raising Title IX issues throughout the school.11 The April 2015 DCL expounds further on necessary knowledge, skills and abilities of the Title IX Coordinator, stating: “Recipients must ensure that their Title IX coordinators are appropriately trained and possess

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7 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.”
8 This document is accessible at [http://www.justice.gov/crt/about/cor/coord/TitleIXQandA.php](http://www.justice.gov/crt/about/cor/coord/TitleIXQandA.php).
10 This document is accessible at [http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf](http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf).
comprehensive knowledge in all areas over which they have responsibility in order to effectively carry out those responsibilities, . . . the best way to ensure Title IX coordinators have the most current knowledge of Federal and State laws, regulations, and policies relating to Title IX and gender equity is for a recipient to provide regular training to the Title IX coordinator . . . “12 It will only be in “rare circumstances” that “an employee’s prior training and experience may sufficiently prepare that employee to act as the recipient’s Title IX coordinator.”13

The Title IX Coordinator reports that her position has overall responsibility for managing and ensuring discrimination and harassment investigations are reviewed and consistent with University policies. OPHD is responsible for determining if violations of policies relating to faculty, students and staff have occurred, and if so, whether they meet Title IX criteria for violations of the law. The Title IX Coordinator also directs or conducts highly confidential investigations, and produces or reviews summary of findings reports of complaints brought forward by faculty, students or staff, under the University Sexual Harassment Policy and Procedures. Based on NASA’s observations of the Title IX Coordinator’s knowledge, skills, and abilities, including a review of her resume, written responses to our questions, discussions with her throughout the review, and discussions with her colleagues, NASA has no reason to be concerned with the Title IX Coordinator’s ability to perform the roles and responsibilities of this position. However, given OCR’s focus on the need for continuous professional development, as well as high visibility, for Title IX Coordinators, we make specific recommendations in these arenas (see Recommendations below).

Regarding authority, access, and visibility of the Title IX Coordinator, DOJ’s Title IX Q&A states that, in order to ensure effectively functioning Title IX coordination, recipients must ensure that “the functions and responsibilities of the Title IX coordinator are clearly delineated and communicated to all levels of the recipient [institution]” and the Title IX coordinator must be “provided all information and authority or access necessary to enforce compliance requirements.”14 OCR’s April 2015 DCL clarifies that “when designating a Title IX coordinator, a recipient should be careful to avoid designating an employee whose other job responsibilities may create a conflict of interest, for example, designating a disciplinary board member, general counsel, dean of students.”15

These reporting and working relationships are consistent with the high level of visibility, authority, and access to top institutional leadership envisioned by OCR and DOJ for effective Title IX coordination efforts. Finally, we note that the Berkeley Title IX Coordinator is not in a position within the University’s administration, e.g., General Counsel’s office that would cause concern as to conflict of interest.

The compliance team also examined the Title IX Coordinator’s efforts to train the Berkeley academic community on Title IX and related issues. Sexual harassment prevention education is mandatory in the state of California for all employers with 50 or more employees, and thus all Berkeley supervisors and faculty are required to complete this training. The Title IX Coordinator verified that the training contains specific information about Berkeley requirements under University Policy and Title IX.

12 OCR April 2015 DCL, pp. 6-7.
13 Ibid.
14 DOJ Title IX Q&A, “Designation of Title IX Coordinator.”
15 OCR April 2015 DCL, p. 3.
The Title IX Coordinator said that OPHD covers this material in its in-person sexual harassment education programs for faculty, staff, and students delivered at various times, depending on the audience. In addition, OPHD provides annual in-person training to residential staff and, by request, to other employee and student groups. According to the Title IX Coordinator, due to staffing limitations in OPHD, she has not made any specific efforts in Physics other than the efforts made for the campus generally.

While NASA finds that Berkeley is in compliance with Title IX coordination requirements regarding skills and competencies, access, authority, and visibility, as well as campus training efforts, further steps should be taken to address training needs for Physics, as outlined in Section B, Grievance Procedures, and E, Program Administration.

2. Recommendations

a. Continuous Professional Development. Berkeley should ensure that its current (and any future) Title IX Coordinator, her staff, as well as anyone serving in roles relating to Title IX coordination, e.g., Dean of Students staff addressing allegations of harassment against students, has the needed training to appropriately and effectively perform these roles and responsibilities. These trainings should occur at the time of appointment and regularly (at least annually) thereafter. Because these laws, regulations, and OCR guidance may be updated and, in the case of guidance, frequently are, the trainings should not only explain the different facets of Title IX, including regulatory provisions, applicable OCR guidance, and the recipient’s Title IX policies and grievance procedures, but also emphasize new or updated guidance. OPHD maintains an electronic compendium (see “Promising Practice” below) of Title IX and related laws, policies, and guidance. NASA recommends that OPHD ensure the compendium allows for and that compliance staff and other stakeholders, e.g., faculty who are principle investigators on NASA grants, have access to and are encouraged to use this compendium as training and for desk-side reference. The compendium may also serve as the basis for training, particularly of those individuals, both in and outside of OPHD, with roles and responsibilities in the prevention of gender discrimination, sexual harassment, and sexual violence.

Update: In regard to training, Berkeley informed NASA in January 2016 that, since the NASA review began, the UC President’s Task Force on Preventing and Responding to Sexual Violence and Sexual Assault (UC President’s SVSA Task Force) recommended an education framework that included mandatory training for all students, faculty and staff (see the discussion on pages 10-13 of the document “Report to the President: President’s Task Force on Preventing and Responding to Sexual Violence and Sexual Assault – July Milestones.”)  

b. Additional Communications Efforts. Given that the Physics academic community appears to be unaware of the role, functioning, and contact information of the Title IX Coordinator, and this might be the case elsewhere, OPHD should adopt additional communications efforts in this arena. For example, OPHD may forward information electronically to all students at the beginning of each academic

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3. Promising Practice

**Policy Compendium.** OPHD currently has (and had in place at the time of the review) in its internal shared documents drive a compendium of policy and legal guidelines applicable to the roles and responsibilities of both complaint resolution officers and education specialists, including those from applicable OCR, DOJ, California law, UC Policy and the UC President’s Task Force on Preventing and Responding to Sexual Violence and Sexual Assault (aka UC President’s SVSA Task Force). This compendium is updated as external guidance evolves.

B. Adoption of Grievance Procedures and Policy Dissemination

1. Compliance Assessment

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. The 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 the recipient 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.

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17 See Oldham email, 1/26/16.
18 Designation of responsible employee and adoption of grievance procedures, 14 C.F.R. § 1253.135(b).
19 Dissemination of policy, 14 C.F.R. § 1253.140.
a. Grievance Procedures

NASA’s compliance assessment seeks to ensure that Berkeley has developed and is implementing procedures that afford a grievant “prompt and equitable” resolution of student and employee complaints alleging any action that would be prohibited by the Title IX regulations. As the regulations do not provide any further specificity regarding the procedures, NASA looked to key guidance documents from DOJ and ED OCR. These guidance documents provide additional considerations on the basic components of effective, i.e., prompt and equitable, grievance procedures in the discrimination and harassment contexts.

**Grievance Procedures Compliance Requirements.** In evaluating whether a school’s grievance procedures are prompt and equitable, and thus satisfy the Title IX requirement, NASA looks to applicable DOJ and OCR guidance to determine whether the procedures provide for:

1. Notice 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.
2. Notice to students, parents of elementary and secondary students, and employees of the procedure, including where complaints may be filed;
3. Application of the procedure to complaints alleging harassment carried out by employees, other students, or third parties;
4. Provisions for adequate, reliable, and impartial investigation of complaints, including the opportunity to present witnesses and other evidence;
5. Designated and reasonably prompt timeframes for the major stages of the complaint process;
6. Written notice to the complainant and alleged perpetrator of the outcome of the complaint;
7. An assurance that the school will take steps to prevent recurrence of any harassment and to correct its discriminatory effects on the complainant and others, if appropriate;
8. Where appeals are part of procedures, they must be accorded equally between the parties;
9. Ease of access and understanding.

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20 14 C.F.R. § 1253.135(b).
21 These include the following: 1) DOJ Title IX Q&A and OCR’s 2) Revised Sexual Harassment Guidance, 3) April 2011 “Dear Colleague” letter (DCL) on sexual violence, and 4) April 2014 guidance, “Questions and Answers on Title IX and Sexual Violence” (April 2014 Q&A), accessible at http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf.
22 The DOJ 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. See DOJ, Title IX Q&A, “Grievance Procedures.”
23 DOJ, Title IX Q&A, “Grievance Procedures.”
25 See OCR Revised Sexual Harassment Guidance, § IX. Prompt and Equitable Grievance Procedures (citations omitted); see also, April 2014 Q&A, p. 12.
26 April 2011 DCL, p. 12.
27 Important, OCR states that “[a] grievance procedure . . . cannot be prompt or equitable unless students know it exists, how it works, and how to file a complaint. Thus, the procedures should be written in language appropriate to the age of the school’s students, easily understood, and widely disseminated.” Revised Sexual Harassment Guidance, § IX. Prompt and Equitable Grievance Procedures.
NASA also looks to the following, regarding which OCR has stated “a school’s Title IX grievance procedures should also explicitly include in writing:”

1. A statement of the school’s jurisdiction over Title IX complaints;
2. Adequate definitions of sexual harassment (which includes sexual violence) and an explanation as to when such conduct creates a hostile environment;
3. Reporting policies and protocols, including provisions for confidential reporting;
4. Identification of the employee or employees responsible for evaluating requests for confidentiality;
5. Notice that Title IX prohibits retaliation;
6. Notice of a student’s right to file a criminal complaint and a Title IX complaint simultaneously;
7. Notice of available interim measures that may be taken to protect the student in the educational setting;
8. The evidentiary standard that must be used (preponderance of the evidence) (i.e., more likely than not that sexual violence occurred) in resolving a complaint; 29
9. Notice of potential remedies for students;
10. Notice of potential sanctions against perpetrators; and
11. Sources of counseling, advocacy, and support.

(i) Procedures as Written

As of January 2016, the University of California had finalized its previously “interim” systemwide Sexual Harassment and Sexual Violence Policy (the Policy), rescinding earlier UC policies and procedures relating to sexual harassment and essentially combining them into a single policy that references all other applicable policies and procedures.30 These include the University’s Faculty Code of Conduct, and the Policies Applying to Campus Activities, Organizations, and Students, Policy 100.00 on Student Conduct and Discipline, and are referenced in the current Policy.

The process outlined in the Sexual Harassment/Sexual Violence Policy conforms with key OCR guidance in many, although not all, respects. For example, the Policy explicitly indicates that complaint investigations are to be conducted using a “preponderance of the evidence” standard. The Policy also clarifies that retaliation is prohibited, states that it applies to conduct by faculty, students or third party complaints, and provides notice of rights to file with a federal agency, such as ED OCR. Further, the Policy designates a reasonably prompt timeframe for completion of investigations, interim measures for relief, and written notification to the parties of

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29 April 2011 DCL, p. 11, stating: “[I]n order for a school’s grievance procedures to be consistent with Title IX standards, the school must use a preponderance of the evidence standard (i.e., it is more likely than not that sexual harassment or violence occurred). The “clear and convincing” standard (i.e., it is highly probable or reasonably certain that the sexual harassment or violence occurred), currently used by some schools, is a higher standard of proof. Grievance procedures that use this higher standard are inconsistent with the standard of proof established for violations of the civil rights laws, and are thus not equitable under Title IX. Therefore, preponderance of the evidence is the appropriate standard for investigating allegations of sexual harassment or violence.” April 2011 Dear Colleague letter, § Prompt and Equitable Requirements, (B) Adequate, Reliable, and Impartial Investigation of Complaints; see also April 2014, Q&A, p. 13.
30 The UC systemwide Sexual Violence and Sexual Harassment Policy is accessible at http://policy.ucop.edu/doc/4000385/SVSH
the outcome. Ease of accessibility is addressed to some extent through the provision of a flowchart of the process on the OPHD website (discussed in the sub-section, Policy Dissemination, below).

NASA has compliance concerns with the procedures under the Policy in that they do not include provisions within the body of the document regarding the opportunity for alleged harassers/perpetrators to present witnesses and other evidence. We note that the Policy cites to appendices, i.e., Appendix I: University Complaint Resolution and Grievance Procedures and Appendix II: University Disciplinary Procedures, each of which provides links to other applicable procedures. However, in order for, say, an alleged student harasser to access this information he or she would have to know that it is the appendix on disciplinary procedures, and not the one on “complaint resolution and grievance procedures” that would yield this information. Moreover, he or she would have to be able to divine that it is Section C on the “types of student misconduct that are subject to discipline and the types of disciplinary actions that may be imposed for violation of University policies or campus procedures.” It would not be inaccurate to say that this important information is “buried.” This is not optimal from a transparency perspective, and Berkeley should consider means of more clearly disseminating key information.

**Update:** In January 2016, Berkeley informed NASA through its Title IX Coordinator that: “[I]t should be noted that 1) both the Interim and final version of the systemwide Policy documents follow the format established for all UC Policies; 2) the final Policy addresses a number of concerns about the Interim Policy addressed in this section; and after UC systemwide policies are finalized, each campus develops local implementing guidelines to clarify and further explain how the policy statement and procedures portions of the systemwide policy will be executed at each campus, medical center or research laboratory. Now that the final version of the UC Policy on Sexual Harassment has been disseminated, work on the local procedures at UC Berkeley has begun. That document will contain local contacts, clearer references to and summary information about applicable disciplinary policies and procedures, and flowcharts of processes.”

31 NASA plans to review these local implementing guidelines as part of an upcoming monitoring review it will commence six months from the issuance of this report (see Conclusion).

Additional compliance concerns that should be addressed in the final version of the UC Interim Policy or Berkeley’s “local” implementing guidelines include the need to:

1) Clarify, at least by example, what is meant by “cases where Early Resolution is inappropriate . . .” – Section V(B)(4);
2) Identify the entity(ies) that makes determinations regarding confidentiality, as the policy merely states: “the confidentiality of reports of sexual harassment or sexual violence will be considered in determining an appropriate response” – Section V(F); and
3) Fully address the ease of accessibility requirement in that the Policy and the key documents it references, e.g., faculty and student codes of conduct, are highly complex and technical in nature, making them extremely difficult for an average student (or faculty member or staffer for that matter) to understand (see also section (b), Policy Dissemination, and Recommendations for this section below).

31 Oldham email, 1/26/16.
Further, we note that nowhere in the procedures associated with this policy was NASA able to ascertain how a complaint dealing with gender discrimination absent any kind of harassing conduct or sexual violence would be addressed. As the Policy, and the procedures flowing from it, are referred to as “sexual harassment and sexual violence” this makes sense, except that it does not appear the University has procedures for discrimination outside of harassment and violence. The University has a policy statement, "Nondiscrimination and Affirmative Action Policy Regarding Academic and Staff Employment," that sets forth its nondiscrimination policy insofar as employment and application for employment. It also has Policies Applying to Campus Activities, Organizations and Students with an Appendix C that provides a sample non-discrimination policy statement for UC publications regarding student matters. However, neither document appears to set forth or link to procedures that implement their policies by providing avenues of redress.

The Policy does state that: “In addition to sexual harassment, discrimination based on sex, gender, gender identity, gender expression, sex- or gender-stereotyping, and sexual orientation violates law and other University policies. Such discrimination may also contribute to the creation of a hostile work or academic environment based on sex and thus constitute or contribute to sexual harassment. Harassment that may not be sexual, but still contributes to a hostile work or academic environment, may also violate the University’s other non-discrimination policies.” However, this is also problematic as it suggests that gender discrimination, e.g., denial or limitation of program participation, is inherently tied to harassment. It is not. Disparate treatment discrimination based on sex can occur absent any harassment. This should be clarified in the Policy. However, the fact that the Policy is titled with reference solely to harassment and violence is the ultimate source of the problem. The University should address this, optimally by changing the name of the Policy to reflect that it provides not only procedures for addressing claims of sexual harassment and sexual violence but also sex discrimination absent these factors.

**Update**: In January 2016, Berkeley informed NASA that “Regarding . . . gender discrimination not being included in the interim systemwide sexual harassment and violence policy, it is worth noting two issues: 1) the final version of this policy does not address this concern, because 2) other forms of discrimination on the basis of gender were and continue to be covered under a separate policy, namely the UC nondiscrimination policies covering students, and staff and faculty employees. While these policies do not have accompanying systemwide implementing procedures, OPHD can and will develop local implementing guidelines for addressing allegations of discrimination on the basis of other forms of protected category discrimination, like gender, gender expression and gender identity.” As mentioned, NASA will look to review these local implementing guidelines as part of its upcoming monitoring review.

**(ii) Procedures as Implemented in the Physics Department**

Regarding allegations of gender bias or sexual harassment raised in the Physics program, NASA heard about one instance of an allegation of gender-related inappropriate behavior. This was raised at the department level during the period of NASA’s review. The instance involved a graduate student alleging that two other graduate students were engaging in offensive behavior, such as telling jokes of a sexual nature. According to the chair of the department, the allegations were

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32 Ibid.
addressed using the Early Resolution provisions of UC’s sexual harassment procedures and handled by the Physics Department’s “Sexual Harassment Officer,” an Associate Professor serving in this role as a collateral duty. After the Associate Professor spoke with the graduate students the behavior stopped, and the student raising the concern did not raise it again. However, during interviews, NASA heard that concerns may have remained even in the aftermath of the efforts to address and resolve these allegations. According to the Physics Chair, he began sending regular anti-harassment statements to the Department in part as a response to these issues.

Another concern evinced by the Chair stemming from this situation has to do with the post-doc who helped to lead the research group in which the graduate students involved were working. The post-doc was viewed by them as being in a supervisory role over them, although technically this was not the case. Nonetheless, the University had not provided this post-doc with the training and education necessary to respond appropriately when allegations of harassing conduct arose at the time of the review.

In addition, there appears to be some confusion as to the exact nature of the role played in the department by the Associate Professor insofar as issues of diversity and equity. The Title IX Coordinator informed NASA that her office does not appoint “sexual harassment officers” within academic departments. She stated that the role played by the Associate Professor is more akin to a “diversity or equity advisor.” This raises two concerns for NASA: 1) the need for Berkeley and Physics to clarify the role of the Physics “equity advisor” and to communicate that role to the academic community within Physics; and 2) the need to provide additional training to the Equity Advisor to the extent issues relating to sexual harassment continue to be brought to him (See Recommendations, below.)

NASA’s concerns with Berkeley’s implementation of its sexual harassment policies and procedures were intensified with news in October 2015 that a Berkeley astronomer receiving some of his grant funding through NASA was found to have violated the University’s sexual harassment policy. We note in this regard that the scope of NASA’s review, insofar as actual implementation of the University’s sexual harassment procedures, is limited to the Physics Department. Nonetheless, the proximity of Astronomy to Physics as disciplines, the fact that the professor engaging in the sexual harassment received NASA funding, as well as the sheer breadth and depth of the matter in terms of the number of individuals involved and the length of time at issue, gives NASA serious pause. It is imperative that the University take the appropriate steps to address allegations of harassing conduct in a prompt and equitable matter in order to be in compliance with Title IX (see Recommendations, below; see also discussion and Recommendations under the Program Environment section, below). To the credit of the Physics Department, in the immediate aftermath of news media reports about the sexual harassment that had occurred in the Astronomy Department, the Physics Chair forwarded a communication to the entire Physics community, reiterating the Department’s commitment to a harassment-free environment and providing a policy statement on the same.

**Update:** In January 2016, the University informed NASA that the Physics Department has done the following to address these matters: “[T]he Chair has regularly reminded the faculty to be aware that if they are assigning post-docs to serve in a supervisory role, to be aware that those post-docs have not received the sexual harassment training that would be expected of an official supervisor. The
Chair has also raised the concern through the proper campus channels, advocating getting this changed so that all post-docs are required to undergo sexual harassment training. As mentioned in separate comments, post-docs will receive mandatory sexual harassment and violence prevention and awareness training beginning in 2016.” NASA commends the Physics Department for these steps.\footnote{Ibid.}

\textit{b. Policy Dissemination}

Relevant ED OCR and DOJ guidance also informed NASA’s assessment of the University’s compliance with the regulatory provision requiring dissemination of Title IX policy and procedures.\footnote{See, e.g., U.S. Department of Justice Civil Rights Division, \textit{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.}

\textbf{Policy Dissemination Compliance Requirements.} OCR’s guidance emphasizes the need for recipient institutions to have “well-publicized” grievance procedures.\footnote{See OCR Revised Sexual Harassment Guidance, Preamble, ”Enduring Principles from the 1997 Guidance.”} In addition, OCR states, “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.”\footnote{Ibid., § V(D), ”The Role of Grievance Procedures.”}

Importantly, OCR stated in its Revised Sexual Harassment Guidance (2001): Distributing the procedures to administrators, or including them in the school's administrative or policy manual, \textit{may not by itself be an effective way of providing notice, as these publications are usually not widely circulated to and understood by all members of the school community.} Many schools ensure adequate notice to students by having copies of the procedures available at various locations throughout the school or campus; publishing the procedures as a separate document; including a summary of the procedures in major publications issued by the school, such as handbooks and catalogs for students, parents of elementary and secondary students, faculty, and staff; and identifying individuals who can explain how the procedures work.\footnote{Ibid., § IX. Prompt and Equitable Grievance Procedures (emphasis added).}

More recently, in its April 2011 Dear Colleague letter on Title IX and sexual violence, OCR has advised grant recipients that their “grievance procedures be prominently posted on school websites; sent electronically to all members of the school community; available at various locations throughout the school or campus; and summarized in or attached to major publications issued by the school, such as handbooks, codes of conduct, and catalogs for students, parents of elementary and secondary students, faculty, and staff.”\footnote{April 2011 Dear Colleague letter, § Prompt and Equitable Requirements, (A) Notice of the grievance procedures.} DOJ regulations also make Federal funding agencies and recipient institutions responsible for disseminating
The Title IX Coordinator reports that the vast majority of campus communication is conducted electronically. Relevant descriptions of the Office for the Prevention of Harassment and Discrimination (OPHD), the role of the Title IX Coordinator and other staff in OPHD are included in the office’s website. Title IX policies, procedures and staff contacts are linked to many other Berkeley websites serving students, faculty and staff, e.g., the Center for Student Conduct, Human Resources, University Health Services, the Gender Equity Resource Center, and the Equity and Inclusion Division websites portals for faculty, staff and students.

OPHD produces a hard copy brochure with contact information that is handed out during training programs and at staff and student orientations. The office plans on producing a new brochure and other handout materials, and new website content, in conjunction with campus partner offices like the Gender Equity Center, the Center for Student Conduct and University Health Services. NASA looks forward to seeing this new material, and will ask about OPHD’s progress in our follow-up to this review.

In general, Berkeley is providing relatively easily accessible information on its policies and procedures for sexual harassment, sexual violence, and gender discrimination. This is demonstrated by a simple Berkeley website search for “sexual harassment”, which leads to a page with links for different policies, including “Sexual Harassment and Violence Support and Education.” Clicking on this link takes you to a page with a wealth of material organized under the heading “How Do I . . .” One of the links is for “Reporting” and takes the viewer immediately to a page laying out the University’s basic policies for filing a complaint, including “who, what and where”. These are reported under the heading for OPHD, which includes contact information for the office. The OPHD heading is a link that takes you to its website, where, in addition to a link to the actual procedures, a simply laid out, easily understand, flow chart of the process is also available.

As stated, Berkeley generally does a good job of laying out the process for filing complaints under Title IX in an easily understandable way through its flowchart. However, NASA has concerns with Berkeley’s online material insofar as:

1) There are two links that take a reader to the same flowchart: the first is called, simply enough, “OPHD Flowchart” while the second is referred to as an “Overview of Campus Sexual Harassment and Sexual Violence Complaint Resolution Process.” However, this presumably covers gender discrimination that is neither harassment nor violence. This should be reflected in the name. Also, while a minute point, it seems the Overview should be in narrative format, or may be unnecessary since it shows the same flowchart.

2) The flowchart of the process laid out on OPHD’s site references appeal rights, stating: “Individuals may have appeal rights through applicable grievance or complaints procedures.” The term “may” is equivocal, and therefore unclear, as well as less than transparent, to anyone reading this. To be consistent with OCR guidance, it should be clear whether appeal rights are available, even if this is addressed in a footnote to the chart.

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39 Public dissemination of Title VI information, 28 C.F.R. § 42.405(c).
3) The flowchart can probably help to further flesh out the process by clarifying what the “appeal” process entails for students, faculty, or staff utilizing it to adjudicate their claim. In this regard we note that the flowchart should clarify whether or not it is reflecting the process to be used where the individual raising the allegation is a student, faculty member, or staff, as well as who the alleged perpetrator is among the three possibilities above – even if this means creating different flows for different combinations.

4) In keeping with 3) above, somewhere Berkeley needs to provide a simplified, easy-to-understand rendering of the process, not just in flowchart format, but in clear, concise narrative. If this cannot be accomplished within the body of the policy on sexual harassment and sexual violence, it can be done as a standalone document on the OPHD and other relevant websites. Such a narrative should incorporate hyperlinks to key procedural documents, e.g., student conduct code. It should also be clear whether “disciplinary procedures” and “appeals” are intended to be synonymous, and if so, this should be clarified.

2. Recommendations

a. Grievance Procedures/Policy Dissemination. NASA recommends that the finalized version of the Policy address the specific compliance concerns laid out on pp. 10-11, and 14-15, above, either in the finalized version of the Policy itself and/or in "local" (Berkeley) implementing guidelines. Consistent with these recommendations, NASA notes that Berkeley has indicated OPHD plans to develop local implementing guidelines for 1) addressing allegations of discrimination on the basis of other forms of protected category discrimination, like gender, gender expression and gender identity, and 2) clarifying and further explaining how the policy statement and procedures portions of the systemwide policy will be executed at each campus, medical center or research laboratory. As stated by the NASA Associate Administrator in her compliance letter to the Chancellor, NASA will conduct a monitoring review six months from the date of the issuance of the compliance letter and report to assess Berkeley’s further progress in this regard.

Update: In January 2016, the University informed NASA that: “Both sets of issues [raised by NASA] are addressed either in the final version of the systemwide sexual violence and harassment policy and/or the new student adjudication model, and/or will be addressed in Berkeley’s implementing guidelines for the systemwide sexual violence and harassment policy.” The University also states that: “[The] concerns described in 1) – 4. . . are addressed in the new UC Systemwide Framework on Investigations, Adjudications and Sanctions for Student Cases of Sexual Misconduct (which includes a Flowchart of Investigations, Adjudications and Sanctions, and a comprehensive FAQ: Sexual Violence & Assault Investigation/Adjudication Model and Sanctions) or will be addressed in local implementing procedures for the new UC systemwide Sexual Violence and Sexual Harassment Policy.” NASA commends these steps to address concerns with Berkeley’s written Title IX procedures and their dissemination. We will continue to assess the University’s progress in addressing the Agency’s compliance recommendations.

b. Appropriate Communication and Education of Roles and Responsibilities. Physics should collaborate with the Title IX Coordinator’s office, OPHD, to 1) ensure appropriate sexual harassment response training and education for post-docs, who, it appears, have not in the past received such
training (see Recommendation (c), below); and 2) immediately clarify both the role and title of the Associate Professor serving as the Department’s “equity advisor.” This clarification should promptly be forwarded in writing to the Department. The clarification should state clearly and concisely the role to be played by the “equity advisor.” It is hard to envision any role and responsibilities that will not be interpreted by those in the community as being inclusive of matters such as bias, including gender bias and inappropriate gender-related conduct. Therefore, it will be necessary for Berkeley to determine not only what the role and responsibilities of the “equity advisor” are, but the level of training needed for any collateral duty employee to handle them.

While NASA recognizes the practice of having “equity advisors” embedded in academic departments as a positive step, it is critical for Berkeley to ensure that those serving in such roles are properly trained on all aspects of their roles and responsibilities. It is equally critical that they are in close contact with and closely advised by the Title IX Coordinator and her office if and when they are called upon to address individual sexual harassment allegations. This is true when such advisors are assisting in efforts to respond to and address these allegations, as well as when such advisors are called upon to assist in the provision of training.

To the extent that Berkeley decides to further enhance its efforts already in place to address sexual harassment and sexual assault by empowering equity advisors to receive allegations of sexual harassment or sexual assault, NASA recommends the Title IX Coordinator oversee the provision of initial and ongoing training on the substantive requirements of Title IX and how to investigate complaints under Title IX that allege sex discrimination, including sexual harassment and sexual violence, filed by students, staff, and faculty. This training should be provided to any deputy coordinators or collateral duty equity advisors and any other individuals from any University department or office delegated the responsibility for receiving and/or investigating complaints of sex discrimination, including sexual harassment and sexual assault. The Title IX Coordinator should retain ultimate oversight responsibility for any deputy coordinators or other officials the University designates to assist the Title IX Coordinator. The University should also develop specific written statements of roles and responsibilities for each such individual that clearly delineate the scope of their duties and their subordinate roles to the Title IX Coordinator.

**Update:** In January 2016, the University informed NASA that: “An outcome of the UC President’s SVSA Task Force was a recommendation for mandatory training of all populations on campus, including postdoctoral appointees. Frameworks for student, staff and faculty education were developed and are attached to the email transmitting this document... The role of Equity Advisers is outlined on the [University’s] Division of Equity and Inclusion website and can be found here: [http://diversity.berkeley.edu/faculty-equity-advisors](http://diversity.berkeley.edu/faculty-equity-advisors).”

c. Education and Awareness for Post-Docs and Students. The Physics Department, in collaboration with OPHD, should institute a training program for all post-docs, graduate students, and undergraduate students. The training should cover both gender bias and sexual harassment, and should be provided to all individuals at the time when they assume their roles. The training should incorporate specific information on what sexual harassment is (its definition under the law), how the term is defined under University policy, and how and to whom
individuals should report concerns. The training should make clear that concerns may be raised both to departmental level officials as well as directly with OPHD, or other appropriate Berkeley avenues of redress. It is critical that the training is consistent with OCR guidance, especially with regard to encouraging individuals to raise concerns around harassment when they view the conduct at issue as “offensive” in nature. Therefore, in crafting the training, OCR guidance, particularly the DCLs from 2001 on sexual harassment, 2011 on sexual violence, and the 2014 Q&A on both sexual harassment and sexual violence should serve as a blueprint.

3. Promising Practice

Sexual Violence Reporting Resource Tool. Berkeley has created a “one-stop shop” resource tool designed to assist members of its campus community in navigating the many options, resources, and avenues of redress for those wishing to raise concerns relating to sexual violence, sexual assault, or stalking. The Title IX Coordinator’s Office, OPHD, and contact information are featured prominently, along with detailed contact information for a wide range of assistance, from the Berkeley Gender Equity Resource Center, to the UC Police Department Survivor Resource Specialist, to the Bay Area Women Against Rape organization, to the Campus Ombuds Office, among numerous others. The resource tool makes clear that students may pursue charges for a policy violation through the campus conduct process and that such cases will be handled by OPHD – this is critical to ensure that there is a central reporting avenue, consistent with Title IX requirements, which call for complaint procedures handled by a coordinator appointed for this purpose.

C. Self-Evaluation

1. Compliance Assessment

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. While grantees are not obligated to conduct a further Title IX Self-Evaluation, such evaluations are very helpful to ensure, for example, that selection criteria and academic practices do not adversely impact students on the basis of gender. They also provide an opportunity to evaluate trends over time and to develop mechanisms for proactively addressing emerging issues.

Berkeley’s responses to NASA information data requests during this review constitute a solid beginning to a Title IX self-evaluation in the key areas of admissions and enrollments of students. Berkeley Physics is to be commended for its previous self-evaluation efforts as well. For example, the department participated in a graduate student survey, conducted in 2009-2011, and a voluntary site visit by the American Physical Society (APS) Committee on the Status of Women in Physics (CSWP) to assess the climate of women conducted in April 2010. These assessments helped to

41 Self-evaluation, 14 C.F.R. § 1253.110(c).
42 14 C.F.R. § 1253.110(c).
result in specific policy changes in the department, for example, bolstering the need for changes in the graduate Preliminary Exam to remove its oral component. As policy and program review are an important part of any assessment, we again want to acknowledge Physics' efforts in this regard. We recommend that the program continue with these efforts (see Recommendation for this section).

2. Recommendation

Continuing In-Depth Physics Title IX Self-Evaluation. Berkeley should continue to conduct robust self-assessment, in part to track its progress over time in its diversity related efforts. We recommend Physics conduct a formal Title IX self-evaluation using NASA’s technical assistance publication, A Guide for Conducting Title IX Self Evaluations in STEM Programs. As part of the self-evaluation effort Berkeley may wish to conduct a further climate survey of the department, using the 2009-2011 survey data as a baseline, or focus groups to further elucidate the issues. It is important, from a measurement perspective, to use the survey and or focus group data component of the overall self-evaluation to establish a baseline and then replicate the survey/focus groups in a few years to see if the "needle" has moved. From a policy perspective, where the self-evaluation, including review of available survey data and other means of measurement, e.g., focus groups, reveals an opportunity for a change in policy, consideration should be given to both greater emphasis on Title IX related education and awareness opportunities for the faculty, staff, and student body, as well as the need for further policy development and dissemination in key areas, for example, policy relating to parental status (see also Recommendations in Section E below).

Update: In January 2016, the University informed NASA that: “Using the baseline data we already have collected, we intend to continue our current evaluation strategies, as recommended. We will consult the NASA Guide for Conducting Title IX Self-Evaluations in STEM Programs, as needed, to identify other useful approaches to measuring departmental climate and change.” NASA views this strategy as an effective means of addressing this recommendation.

3. Promising Practice

Robust Self-Evaluation/Strategic Action or Intervention. Berkeley Physics has conducted meaningful self-evaluation to address program issues through multiple means, including student surveys and a voluntary site-visit from the APS CSWP. Through its self-evaluation efforts Berkeley has uncovered discrete issues and sought to address them through intentional deliberate means. An excellent example of this is Berkeley's pinpointing of issues relating to its graduate Preliminary Exam and the study of enrollment percentages in honors Physics classes. With regard to the former, the Preliminary Exam is a very broad diagnostic tool, used to help identify any weak areas from the student's undergraduate background. Evaluative efforts relating to the exam, both prior to and during APS's visit, helped show the potential impact of "stereotype threat" for women and minorities taking the exam. The basic idea is that when students get into high stress situations, some that are carrying added strain of being in a distinct minority adds to the stress and this can adversely impact performance. In part to address stereotype threat, Physics carefully evaluated the exam and determined that the oral component was not necessary to serve the purpose.
behind the exam, that is, its value as a diagnostic tool, and so removed this part of the exam.

With regard to the honors classes, Physics was able to determine that enrollment percentages in the honors classes, which are recommended for pre-Physics students who want the academic challenge, have remained more or less constant, but are lower than that seen in the major overall. This indicated that fewer women and underrepresented minorities enter knowing they want to be in the Physics major, and/or feel they should take the “academic challenge” of the honors sequence. While noting that the numbers are small and there is a need to be careful about drawing strong conclusions and/or assuming trends, Physics is continuing to monitor this and other data carefully to help in our overall efforts to attract more students from the pipelines of high school graduates, current undeclared undergraduates, and community college students with aims to transfer. To address this issue, Physics supports summer programs, such as Summer Bridge, designed to help students get a jump-start on their Berkeley career. This is exactly the kind of in-depth self-evaluation and follow-up strategic action that can help to increase gender and other forms of diversity.

D. Recruitment, Admissions, Enrollment, Degrees Earned, and Financial Assistance

1. Compliance Assessment

The NASA Title IX regulations state that recipients may not discriminate on the basis of sex in admissions and recruitment. Consistent with this requirement, NASA reviewed the Physics Department’s student recruitment and admissions practices, as well as data on student departures and degrees earned. For graduate students, NASA also examined financial assistance awarded to students and success on the comprehensive and qualifying exams. The review was based on five academic years: 2009-10 through 2013-14.

Admissions and Recruitment Compliance Requirements. NASA’s Title IX regulations prohibit discrimination on the basis of sex in admission and recruitment to educational programs or activities receiving financial assistance from NASA. Specifically, the regulations prohibit educational institutions from such activities as:

- Giving preference to one person over another on the basis of sex, by ranking applicants separately on such basis, or otherwise;
- Applying numerical limitations upon the number or proportion of persons of either sex who may be admitted;
- Administering or operating any test of other criterion for admission that has a disproportionally adverse effect on persons on the basis of sex;

43 All data in this section pertaining to University of California at Berkeley students was provided by the University in response to NASA’s information request.

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

• Making pre-admission inquiries as to the marital status of applicants for admission (including whether such applicant is “Miss” or “Mrs.”); and
• Applying rules concerning actual or potential parental, family, or marital status of an applicant that treats persons differently on the basis of sex when determining whether a person satisfies admission criteria.

In addition, NASA’s regulations regarding the prohibition of discrimination on the basis of sex in employment in educational programs also apply to the recruitment, advertising, and the process of application for employment.\textsuperscript{[2]}

\textbf{a. Outreach and Recruitment}

NASA found that the Physics Department and the Division of Mathematical and Physical Sciences (the Division or MPS) actively recruit prospective undergraduate and graduate students through myriad programs. These programs are designed to reach both underrepresented minority (URM) and female candidates. Berkeley also supports programs targeted at recruiting female candidates specifically, including hosting and support for travel to the annual Conference for Undergraduate Women in Physics (CUWiP), and holding SWPS-sponsored events for female candidates during on-campus recruitment.

Additionally, NASA found that the Division’s Science Office, under the direction of Dr. Colette Patt (the MPS Diversity Director), deploy several outreach, recruitment and retention programs with special emphasis on increasing diversity in the mathematical, physical, and computer science fields at the undergraduate and graduate levels. These efforts include the Berkeley Science Network; Berkeley Science Network-Scholarship Project (undergraduate only); Berkeley Science Connections, Berkeley Edge (graduate level only); the NSF-California Alliance for Graduate Education and the Professoriate (postdoctoral level); and the Compass Project (see also Promising Practices, below).

In addition to these efforts, the Berkeley Society of Women in the Physical Sciences (SWPS) participates in two K-8 outreach programs: Bay Area Scientists in Schools (BASIS) and Expanding Your Horizons (EYH). According to the SWPS website, BASIS is a “science role model volunteer program for public elementary schools in the East Bay,” the purpose of which “is to connect volunteer scientists to elementary and middle schoolers in the community.” The EYH is part of a national network of yearly conferences across the country designed to encourage young women to pursue opportunities in STEM.

Berkeley informed NASA that Dr. Patt monitors the representation of students from different demographic groups in the MPS fields and evaluates the effectiveness of efforts to increase diversity. Berkeley’s statistics are calibrated against national statistics and prior records. When necessary, changes in programmatic or policy responses are recommended to the departments. For example, at the undergraduate level, the current approach to recruitment (calling admitted applicants who will increase the diversity of the entering freshman cohort) resulted from an analysis of admissions and yield data conducted in cooperation with the office of admissions by Dr. Patt.

\textsuperscript{[2]} 14 C.F.R. §1253.500.
b. Undergraduate Admissions, Enrollments and Degrees Earned

Berkeley informed NASA that the Department does not admit students into the University. Interested students must apply directly to the Office of Undergraduate Admissions.

A student who has been officially admitted to the UC Berkeley campus may apply to the Undergraduate Program in Physics, within the College of Letters and Science (L&S). Students may apply to the physics major when all of the prerequisites for the major have been completed with a minimum 2.0 grade point average in the prerequisites and a minimum 2.0 grade point average in all University courses.45

Berkeley provided NASA with data on undergraduate "enrollment" (those with declared Physics majors), program departures, and degrees earned for the five year period (2008-09 to 2012-13) reviewed by NASA. With respect to undergraduates, NASA found that on average 19 percent of students enrolled in the Physics program and 24 percent of those earning undergraduate degrees during the five year period were women (see Table 1), despite a departure rate for women of 23 percent. The percentage of undergraduate degrees earned by women compares favorably with the National Science Foundation’s national rate for women earning Bachelor’s degrees in Physics, which for 2010 and 2011, was 20 percent.46

With respect to departures (including changes of major, dropping one of two double majors, and leaving the university), the five year departure rate (losses as percent of enrollment) for women was 4.6 percent compared to 3.7 percent for men. However, NASA determined that a higher percentage of women had double majors and dropped physics compared to men. Only one female physics major withdrew from the university during the five year period.

Based on the above data and interviews with students, NASA does not have compliance concerns in the area of undergraduate admissions or recruitment.

c. Graduate Admissions, Enrollments, and Degrees Earned

In determining the admissibility of a prospective graduate student, the Department attempts to carefully weigh all relevant factors, including transcripts of academic work, general and physics subject test scores on the Graduate Record Examination (GRE), letters of recommendation, any research experience, a statement of purpose, and a personal statement which may describe hardship and life experiences. NASA learned that, like many Physics graduate programs in the United States, the Physics graduate program is designed for those intending to pursue work leading to the Ph.D. After completing the necessary course work requirements, a MA degree can be awarded, but since the goal of graduate study is a Ph.D. in Physics, the Department does not consider applications from those intending to work toward the MA degree only.


46 National Science Foundation, Science and Engineering Indicators, 2014, Appendix Table 2-17.
Berkeley informed NASA that graduate admissions evaluations are made by the Department’s Graduate Admissions Committee (the Committee). The Committee consists of seven or eight Department faculty who either volunteer or are “drafted” by the Department to be on the Committee. Upon evaluation of the applications, the Committee takes a vote, based on case-by-case deliberation, to recommend applicants for admissions to Berkeley’s graduate division. As the Committee reviews applications, it makes note of candidates that have a demonstrable component of diversity and the Physics Department’s Educational Outreach, Diversity, and Equity (EODE) Committee then reviews the diversity component of these selected applications more thoroughly. Subsequently, the EODE Committee presents to the Admissions Committee its recommendations for candidates for diversity fellowships. Later, as the deliberations of the Committee continue, the EODE Committee, the Dean’s Science Diversity Office, and Physics Student Services review selected applications for potential for diversity and recommend applicants to the Committee, especially paying attention to cases where traditional measures of success (i.e., GRE score) are less predictive.

**Table 2. Doctoral Applications and Offers**

<table>
<thead>
<tr>
<th></th>
<th>APPLICATION RATES</th>
<th>OFFER RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
<td>2008-09</td>
<td>614</td>
<td>109</td>
</tr>
<tr>
<td>2009-10</td>
<td>573</td>
<td>104</td>
</tr>
<tr>
<td>2010-11</td>
<td>592</td>
<td>116</td>
</tr>
<tr>
<td>2011-12</td>
<td>688</td>
<td>123</td>
</tr>
<tr>
<td>2012-13</td>
<td>697</td>
<td>151</td>
</tr>
<tr>
<td>TOTALS</td>
<td>3164</td>
<td>603</td>
</tr>
</tbody>
</table>

NASA found that women comprised only 16.0 percent of the total applicants to the graduate program for the five year period reviewed. However, the percentage of female applicants who received offers from the Department (19.9 percent of all female applicants) was higher than the percentage of male applicants who received offers (13.5 percent of all male applicants).

Thus, while NASA found that only 32 percent of women who received offers matriculated compared to 38 percent of men who received offers, the new enrollments of women (19.2 percent of all new enrollments – see Table 3) was higher than their application rate (16.0 percent), because of the higher offer rate to female applicants.

**Table 3. New Doctoral Enrollments**

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTALS</th>
<th>% F</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>35</td>
<td>5</td>
<td>40</td>
<td>12.5%</td>
</tr>
<tr>
<td>2009-10</td>
<td>42</td>
<td>6</td>
<td>48</td>
<td>12.5%</td>
</tr>
<tr>
<td>2010-11</td>
<td>21</td>
<td>7</td>
<td>28</td>
<td>25.0%</td>
</tr>
<tr>
<td>2011-12</td>
<td>29</td>
<td>11</td>
<td>40</td>
<td>27.5%</td>
</tr>
<tr>
<td>2012-13</td>
<td>33</td>
<td>9</td>
<td>42</td>
<td>21.4%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>160</td>
<td>38</td>
<td>198</td>
<td>19.2%</td>
</tr>
</tbody>
</table>

NASA also found generally positive trends in terms of numbers and percentages of women applying for the program over the five years as well as numbers and percentages of new enrollments and total enrollments (see upward trend of percentages in Tables 2, 3, and 4). The percentages of new female enrollments for the most recent three years is about double the percentages of the earlier two years (see Table 3).
Table 4. Total Doctoral Enrollments

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTALS</th>
<th>M %</th>
<th>F %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>198</td>
<td>39</td>
<td>237</td>
<td>83.5%</td>
<td>16.5%</td>
</tr>
<tr>
<td>2009-10</td>
<td>210</td>
<td>38</td>
<td>248</td>
<td>84.7%</td>
<td>15.3%</td>
</tr>
<tr>
<td>2010-11</td>
<td>199</td>
<td>41</td>
<td>240</td>
<td>82.9%</td>
<td>17.1%</td>
</tr>
<tr>
<td>2011-12</td>
<td>193</td>
<td>43</td>
<td>236</td>
<td>81.8%</td>
<td>18.2%</td>
</tr>
<tr>
<td>2012-13</td>
<td>193</td>
<td>44</td>
<td>237</td>
<td>81.4%</td>
<td>18.6%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>993</td>
<td>205</td>
<td>1198</td>
<td>82.9%</td>
<td>17.1%</td>
</tr>
</tbody>
</table>

NASA examined the percent of doctorate degrees awarded to men and women over the five year period, finding that women earned 19.5 percent of the degrees, with a generally positive trend. This compares favorably with the 17.6 percent national percentage of physics doctorate degrees earned by women in 2011.47

Table 5. Doctorate Degrees Awarded

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTALS</th>
<th>M %</th>
<th>F %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>70</td>
<td>14</td>
<td>84</td>
<td>83.3%</td>
<td>16.7%</td>
</tr>
<tr>
<td>2009-10</td>
<td>87</td>
<td>17</td>
<td>104</td>
<td>83.7%</td>
<td>16.3%</td>
</tr>
<tr>
<td>2010-11</td>
<td>87</td>
<td>18</td>
<td>105</td>
<td>82.9%</td>
<td>17.1%</td>
</tr>
<tr>
<td>2011-12</td>
<td>72</td>
<td>25</td>
<td>97</td>
<td>74.2%</td>
<td>25.8%</td>
</tr>
<tr>
<td>2012-13</td>
<td>81</td>
<td>22</td>
<td>103</td>
<td>78.6%</td>
<td>21.4%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>397</td>
<td>96</td>
<td>493</td>
<td>80.5%</td>
<td>19.5%</td>
</tr>
</tbody>
</table>

Based on the above data and interviews of students, NASA does not have compliance concerns in the area of graduate admissions or recruitment.

d. Graduate Financial Assistance

Another area reviewed by NASA is the financial assistance provided to graduate students in the form of fellowships, research assistantships, and teaching assistantships. NASA found that nominations for the Berkeley fellowships for incoming graduate students follow recommendations of the admissions committee. These are based on standard criteria such as academic achievements in courses, and in research if applicable, recommendation letters, test scores, etc. Graduate student instructors are selected and placed by student services with consideration of student preferences. Graduate student research positions are generally selected by individual principal investigators or research groups. The criterion varies from group to group.

Over the five year period, NASA found that women received 19.5 percent of the fellowships, but only 13.5 percent of the research assistantships, and 13.6 percent of the teaching assistantships. However, a comparison of the combined per capita amount of support shows that women received an average of $41,043 per year compared to $39,049 for men. Based on the data and interviews of students and faculty, NASA has no compliance concerns in the area of graduate financial assistance.

47 Ibid, Table 2-31, U.S. citizens only.
2. **Recommendation**

**Continue to Increase Applications from Women.** Although the enrollment of women in the graduate program, as well as degrees earned compares favorably with national percentages, NASA encourages the Department to further focus recruitment efforts on women. The number and percentage of female applicants has been steadily rising, but only in the most recent year reviewed was the percentage of women applying (17.8 percent) higher than the national percentage of women earning doctorates in physics (17.6 percent). If other factors can be sustained, e.g., high offer rates to women and low departure rates of women, a higher initial application rate of women could greatly enhance the gender diversity of the program.

3. **Promising Practice**

**Dynamic Outreach and Recruitment Programs.** NASA commends the Physics Department and the Division of Mathematical and Physical Sciences for actively recruiting diverse students through a variety of programs such as "Launch Day" and "Second Stage," which are fall semester orientation programs offered by the MPS Diversity and Education Center in collaboration with the Physics Department for incoming freshman and transfer students, respectively. These orientations were designed by the SWPS under the guidance of the MPS Diversity Director to ensure that all incoming students have equal access to the information needed to make their way successfully through the physical sciences majors. Physics faculty, staff and student representatives participate actively in these orientations. NASA also applauds the SWPS for its K-8 outreach programs, including the Bay Area Scientists in Schools (BASIS) and Expanding Your Horizons. The dearth of women in the physical sciences remains in large part due to the loss of interest in science by girls at a young age. Outreach such as the work being done by the SWPS is critical to keeping girls interested in math and science.

E. Program Administration and Academic Environment

1. **Compliance Assessment**

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.\(^{48}\)

**Program Administration Compliance Requirements.** NASA looks to the following to assess compliance in the program administration context:

1. **Denial of Benefits/Limitation on Program Participation.** NASA’s Title IX regulations prohibit a recipient from denying the benefits of its programs or

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\(^{48}\) Education programs or activities, 14 C.F.R. § 400(a),(b)(7).
services or otherwise limiting program participation based on sex, including sexual harassment and sexual violence.\(^\text{49}\)

2. Discriminatory Effects. 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.\(^\text{50}\)

3. Career Counseling and Guidance. The Title IX regulations explicitly state that a recipient may not discriminate on the basis of gender with regard to career counseling or guidance.\(^\text{51}\) This includes academic advising.

4. Parental and Marital Status. The NASA Title IX regulations include detailed provisions on matters pertaining to marital and parental status.\(^\text{52}\) 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. The regulations also require that pregnancy and childbirth be treated in the same manner and under the same policies as any other temporary disability or physical condition.\(^\text{53}\) 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 . . . 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.”\(^\text{54}\) More recently, in its “Dear Colleague” letter of June 25, 2013 and the accompanying technical assistance document, “Supporting the Academic Success of Pregnant and Parenting Students,” OCR has provided a wealth of guidance and information to educational grant recipients on Title IX requirements pertaining to pregnancy and parental status.\(^\text{55}\)

We also note at the outset of this discussion, because it relates to the overall program or academic environment, that the NASA Administrator issued a policy statement in the form of a letter to all university grantee presidents, specifically on the topic of maintaining inclusive STEM program environments. In January 2016, NASA Administrator Charles F. Bolden, Jr., sent a letter to all NASA grant recipients reminding them of their responsibilities under Title IX and the importance of ensuring equal opportunity to all participants (see Appendix). Administrator Bolden stated, in part:

> NASA takes very seriously our obligations, both legal and ethical, to make sure that when we provide Federal dollars to a STEM education

\(^\text{49}\) Id.  
\(^\text{50}\) Enforcement procedures, 14 C.F.R. § 605.  
\(^\text{51}\) Counseling and use of appraisal and counseling materials, 14 C.F.R. § 1253.425.  
\(^\text{52}\) Marital or parental status, 14 C.F.R. § 1253.445 and 1253.530.  
\(^\text{53}\) Admission, Prohibitions relating to marital or parental status, 14 C.F.R. § 1253.300(c)(3).  
\(^\text{54}\) Marital or parental status, 14 C.F.R. § 1253.445 (b)(5).  
program that the program is extending equal opportunity to all of its participants. We seek to help STEM programs nation wide in their efforts to achieve educational environments in which equality of opportunity and inclusion are not just buzzwords, but are internalized by all members of the community and institutionalized in fair and equitable policies and practices. ... No grantee institution that allows impermissible harassment to go unaddressed can be deemed to be in compliance with civil rights law.56

Within the context of the overall program environment, the compliance team examined the UC Berkeley Physics Department, including academic advising, career counseling, research participation, classroom experiences, parental or marital status ("family friendly") policies, and physical safety of the program environment, as well as the extent of concerns among students regarding sexual harassment or sex discrimination.

a. Academic Advising and Career Counseling

NASA examined the Physics Department's advising program, including policies and procedures, as well as student experiences and observations, to determine whether there was evidence of students being treated differently or otherwise limited in program participation, on the basis of gender.

At the undergraduate level, each declared Physics major is assigned a faculty advisor, based on the student's self-identified research interests. To the extent possible, students are matched with a faculty advisor in that area of interest. Students can ask for a change of advisor. At the graduate level, students are paired with the faculty member doing research in their chosen area. Male and female graduate students interviewed described positive and productive advising relationships.

Students interviewed generally did not report observing or experiencing differences in the advising process relating to their gender. Most felt that their advisor was approachable and effective. When a "difficult" advisor was mentioned they were "difficult" regardless of sex. Interestingly, NASA heard from students that some of the graduate advisors ask students if they should consider taking more undergraduate classes. A few faculty and students said that, in their opinions, male students are more likely to say that they believe they have had the necessary coursework, while female students seem more likely to question their preparation and abilities, and wind up registering for the undergraduate classes.

While this reflects only anecdotal information from a small number of individuals, it does track with a related, overall "confidence" issue for some women in Physics that NASA has observed in a number of programs it has reviewed. Berkeley faculty members noted that, in both their advising and teaching roles, they have observed a problem for some women in the Physics program relating to confidence in their own abilities. Several faculty members reported that, in their experience, male students tend to be over-confident while female students tend to underestimate their abilities. As mentioned, this underestimation of abilities, and related "confidence" issues, is a consistent theme NASA has observed in its Title IX reviews of Physics programs.

Possible efforts the department may wish to undertake to help address this issue, such as a collaboration with the American Physical Society’s Committee on the Status of Women, are discussed in the recommendations for this section below.

b. Classroom and Lab Environment

NASA examined whether students were treated differently or otherwise limited, on the basis of gender, with regard to research participation and in their classroom experiences, including whether there was any indication of sexual harassment by faculty or graduate students in positions of responsibility. NASA’s interviews with Physics faculty and students focused on the experiences of students in the classroom and lab. In terms of classroom experiences, students interviewed reported that they did not notice differences in the way male and female students are treated by faculty members. Students believed that professors were generally responsive and encouraging of participation regardless of the student’s gender. The vast majority of interviewees agreed that gender bias, to the extent that it is present, is largely unconscious and unintentional in nature.

However, as noted above, the relative lack of confidence in ability among some women students emerged as a theme in the interviews NASA conducted. For example, one professor spoke about the need for women students to be drawn out more in class, while male students were more likely to cut off their peers in discussion. One faculty member observed that male students tended to be more competitive, while female students were more collaborative. Another faculty member observed that men tend to be “more cocky” about their math and science abilities, whereas women are less self-assured. Still another professor said that this phenomenon of lesser confidence in women is even stronger in Eastern acculturated women in Physics. Several female graduate students acknowledged that they have felt a need to be more aggressive in the lab setting. Other comments made during interviews suggest a consensus around the notion that physicists are “ego driven” and that it is “the guy who talks the loudest that gets heard.” However, there was also consensus that professors treat men and women equally, with interviewees stating that they observed no gender differences in regard to interactions between faculty and students in the lab or classroom participation. Nonetheless, it is not at all clear that this is the case between students themselves, either at the graduate and undergraduate levels, as well as post-docs.

NASA has serious concerns about comments made in interviews that seem to suggest the presence of subtle, and sometimes not so subtle, gender biases that may be heard in remarks made by students, both graduate and undergraduate, in various contexts. For example, NASA heard from one professor about “too many off-color” remarks made by teaching assistants (TAs). Another professor noted the need for gender bias and sexual harassment training for all graduate students as they help “set the tone” for the environment. A number of students, when asked if they had ever observed what they considered to be gender bias, answered in the affirmative.

In addition, NASA heard concerns raised by some students regarding alleged remarks about women receiving fellowships or grants because they were women, or due to their appearance. There were also two instances of alleged inappropriate gender-related conduct at the University during the period of NASA’s review (see Section B, above). It is imperative that the Physics Department do a better job of ensuring the members of its community, especially post-docs and graduate students, are provided appropriate education and awareness on gender bias and sexual
harassment. It appears the environment that now exists can be unwelcoming to women on a number of levels, not least of which is the view that inappropriate gender-related remarks and conduct can be engaged in without consequence. (See Recommendations section below as well as Recommendations for Section II(B), above).

Another area of concern has to do with the Preliminary Examination (Prelim) the department administers to graduate students in their first two years in the program. As mentioned in the “Self-Evaluation” section above, Physics removed the oral part of the examination several years ago. This was done in part to address concerns around the stressfulness and perceived inequitable nature of the exam, concerns raised through self-assessment, such as the APS site visit in 2010. NASA heard from the vast majority of the graduate students interviewed that the Prelim remains a high-stress-inducing component of the graduate student’s experience, at least for those who have yet to take or pass it.

NASA’s concerns are two-fold. First, there appears to be a good deal of confusion among graduate students as to the purpose of the exam, the way it is graded, and its content. Students interviewed spoke about feeling as though the questions on the exam were tangential to their area of study or “random” in nature. They also spoke about being unclear as to a grading protocol that allowed for a “High Pass” a “Questionable Pass” and a “Fail.” Some students believed that women were being advised not to take the entire exam at once and were being encouraged to take undergraduate classes first, which was thought to be unnecessary and raised questions of gender bias for some. These students felt that advisors were telling women to put off the exam until after freshman year. NASA believes these areas of concern can be dealt with through a more deliberate and focused communications effort by the department on the exam and additional self-evaluative steps (see Recommendations below).

The second concern has to do with data on the pass/fail rates of the preliminary exam. It appears based on data provided by the department that women are failing the exam at higher rates than men. The preliminary exam is used to assess entering students' background and preparation, so that anything missing can be made up as soon as possible. There are four sections to the exam: (1) classical mechanics; (2) electromagnetism, optics, and special relativity; (3) thermodynamics and statistical physics; and (4) quantum mechanics. Students are encouraged to take the exam in their first semester, and are required to attempt all four sections by the end of their second semester. The Department reviews the academic records of all students who have not passed all sections of the exam by the third semester. It is expected that all students should successfully pass all four sections of the exam no later than their 4th semester.

That data show that, overall, women score lower than men on the preliminary exam, and are more likely to take the exam multiple times. Between Fall 2008 and Fall 2015, although women accounted for approximately 17 percent of all graduate students, they accounted for 27 percent of those who took (or retook) the exam. Further, while changes to the exam implemented in Fall 2010 appear to have resulted in a higher percentage of women passing the exams, women remain more likely to fail the test than men. Between the Fall semester of 2008 and the Spring semester of 2010, 33 percent of women passed the classical physics test and 44 percent passed the modern physics test. In comparison, 78 percent of male test-takers passed the classical test, and 81 percent passed the modern test. Beginning
in Fall 2010, slightly more than 50 percent of women have passed each of the four segments, compared to about 80 percent of men (see figure below).

For most semesters, the data show that women score well below the average pass rate (i.e., 10 or more percentage points lower than the average pass rate). The only tests for which this did not occur were (see Tables 1 and 2):

- Classical Mechanics in Spring 2012, Fall 2012, Spring 2013, and Spring 2015 (the women’s pass rate was higher than the average pass rate in Spring 2013 and Spring 2015);
- Electromagnetism in Fall 2011, Spring 2013, and Spring 2015 (the women’s pass rate was higher than the average pass rate in Spring 2013);
- Statistical Physics/Thermodynamics in Spring 2011, Fall 2011, Spring 2013, Spring 2015, and Fall 2015 (the women’s pass rate was higher than the average pass rate in Spring 2013 and Fall 2015); and
- Quantum Mechanics in Spring 2013 and Fall 2015 (the women’s pass rate was higher than the average pass rate in Spring 2013).

The discrepancies between men’s and women’s pass rates presents a challenge for the Department, which must address the apparent disparate impact. To do so, Physics will need to engage in further self-evaluative efforts (see Recommendations below).
Table 6: Pass Rates for Women and Men, by Test Segment, Fall 2008-Spring 2010

<table>
<thead>
<tr>
<th></th>
<th>Classical Physics</th>
<th></th>
<th>Modern Physics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Avg.</td>
<td>Women</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>29%</td>
<td>82%</td>
<td>73%</td>
<td>14%</td>
</tr>
<tr>
<td>Spring 2009</td>
<td>33%</td>
<td>75%</td>
<td>61%</td>
<td>50%</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>40%</td>
<td>74%</td>
<td>67%</td>
<td>57%</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>25%</td>
<td>80%</td>
<td>68%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Table 7: Pass Rates for Women and Men, by Test Segment, Fall 2010-Fall 2015

<table>
<thead>
<tr>
<th></th>
<th>Mechanics</th>
<th></th>
<th>E&amp;M</th>
<th></th>
<th>Stat/Thermo</th>
<th></th>
<th>QM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2010</td>
<td>25%</td>
<td>84%</td>
<td>70%</td>
<td>17%</td>
<td>79%</td>
<td>67%</td>
<td>63%</td>
<td>83%</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>67%</td>
<td>100%</td>
<td>78%</td>
<td>43%</td>
<td>80%</td>
<td>58%</td>
<td>67%</td>
<td>75%</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>58%</td>
<td>81%</td>
<td>74%</td>
<td>67%</td>
<td>69%</td>
<td>68%</td>
<td>57%</td>
<td>67%</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>71%</td>
<td>71%</td>
<td>71%</td>
<td>50%</td>
<td>91%</td>
<td>74%</td>
<td>67%</td>
<td>86%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>75%</td>
<td>84%</td>
<td>82%</td>
<td>67%</td>
<td>81%</td>
<td>78%</td>
<td>50%</td>
<td>72%</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>75%</td>
<td>50%</td>
<td>58%</td>
<td>75%</td>
<td>70%</td>
<td>71%</td>
<td>100%</td>
<td>86%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>18%</td>
<td>82%</td>
<td>68%</td>
<td>30%</td>
<td>92%</td>
<td>78%</td>
<td>13%</td>
<td>40%</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>55%</td>
<td>78%</td>
<td>65%</td>
<td>50%</td>
<td>78%</td>
<td>63%</td>
<td>50%</td>
<td>85%</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>58%</td>
<td>77%</td>
<td>73%</td>
<td>50%</td>
<td>74%</td>
<td>68%</td>
<td>30%</td>
<td>87%</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>83%</td>
<td>64%</td>
<td>71%</td>
<td>67%</td>
<td>73%</td>
<td>71%</td>
<td>70%</td>
<td>89%</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>71%</td>
<td>89%</td>
<td>86%</td>
<td>56%</td>
<td>82%</td>
<td>77%</td>
<td>80%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Note: Numbers in red indicate semesters and test areas where a group scored lower than the average pass rate by 10 or more percentage points; numbers in green indicate semesters and test areas where a group scored higher than the average pass rate by 10 or more percentage points.

NASA did not find that the program is engaging in disparate treatment or limiting any individual's participation based on gender. We do, however, find indicators of disparate impact based on gender with regard to the Preliminary Exam. Our review did not focus on why women appear to fare worse on the preliminary exam – an inquiry that Physics must undertake. In addition, we are concerned about the potential for unaddressed confidence issues, inappropriate gender-related conduct, and even small instances of subtle bias that can add up over time is of concern. A continued intentional focus on ensuring equal opportunity and inclusion is needed going forward (see Recommendations for this section below).

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

Regarding parental and marital status, NASA focused on Title IX provisions pertaining to pregnancy and childbearing. In interviews with faculty and students, NASA sought to determine both the level of knowledge regarding parental leave and pregnancy related policies as well as the appropriateness of the department’s implementation of the policies. It appears that, generally speaking, when graduate students have needed to avail themselves of leave for parenting or pregnancy, faculty has been generally accommodating. Also, we note at the outset that no student we spoke with said that her program participation was limited based on pregnancy or childbearing. Nonetheless, NASA has concerns both with aspects of the
policies themselves as well as the level of knowledge in the department regarding them.

As to the policies themselves, the UC Guide to Graduate Policy states, in its section on student parent policy and accommodation for pregnancy and childbirth that UC campuses “shall not require a graduate student to take a leave of absence, withdraw from the graduate program, or limit his or her graduate studies solely due to pregnancy or pregnancy-related issues.” The concern at Berkeley appears to be that the University does not offer a leave option for pregnancy or childbirth, unlike other UC campuses, which provide “planned educational leave” for parental or medical needs. Therefore, students negotiate directly with professors or, where they are not provided with accommodations or need a longer period of absence, withdraw.

Of equal concern is that the graduate students interviewed, both male and female, offered similar perspectives on the departmental environment as it relates to pregnancy and parenting. One individual with parenting responsibilities said that, of two advisors, one was very supportive, while the other was not, showing “no understanding” of the need for family and work life balance. In fact, the consensus view is that taking time off for childbirth or parenting is frowned upon. It is generally viewed as problematic for accomplishing research and this view is being communicated on some level, or it would not have come through so clearly in so many graduate student interviews. Further, it was generally agreed by faculty and graduate students both that having and raising children during graduate school and early years as faculty is challenging at best, and ill-advised at worst. There was also consensus, as there is at most universities on which NASA has conducted Title IX reviews, that campus childcare options are very limited, especially for graduate students.

As to knowledge of the relevant policy and procedures, NASA also has some concerns. The UC Graduate Guide student parent section states that UC campuses must “have a written policy for graduate students on pregnancy discrimination and procedures for addressing pregnancy discrimination complaints under Title IX or this section. A copy of this policy shall be made available to faculty, staff, and employees in their required training. This policy shall be made available to all graduate students attending orientation sessions at a postsecondary educational institution.” Physics graduate students interviewed did not recollect receiving this information, although given that vast quantities of information are provided to incoming students, it is fairly typical for them not to recall receipt of information at orientation. Nonetheless, this is of concern (see Recommendations below).

We do wish to note, however, that Berkeley is already seeking to better ensure information dissemination on pregnancy and parenting. At the beginning of the 2015-2016 school year, Chancellor Steele forwarded a message to the campus community calling attention to and providing specific information on a host of EO related policies, including student parenting and childbirth. The message directed graduate students to the Guide to Graduate Policy and to the office of the Title IX Coordinator to address specific questions.

58 Id.
d. Safety

Regarding Berkeley policies and student experiences involving physical safety on campus, NASA examined how well the University and Physics are doing at ensuring the physical safety of students. Students interviewed said they generally felt safe on campus, although some parts “feel safer than others,” depending on the adjoining neighborhood. Some students mentioned the nighttime escort provided for walking students home, Bear Walk. Others mentioned the prevalence of the “blue phones” around campus. (The University has installed more than 130 emergency phones on the UC Berkeley campus, outlying parking areas and other off campus locations.)

Other students, both male and female, grad and undergrad, mentioned that they felt the lighting on campus could be improved. Some students mentioned that they were aware of a “campus bus” that provided “door to door” service, but were unsure of how it worked. A few students said that the Space Sciences Laboratory was not as safe as the campus facilities because it is in an isolated part of town, and there is not affordable parking for the students. All of the students were familiar with the crime alerts that are required under the Clery Act and viewed them as helpful.

NASA notes that new requirements placed on educational institutions under the Violence Against Women Reauthorization Act of 2013 amend the Clery Act, and do not, according to OCR, affect in any way Title IX, its implementing regulations, or associated guidance issued by OCR. Therefore, NASA is not assessing Berkeley’s compliance with these requirements in this review.

NASA’s review does not suggest concerns around physical safety have limited any student’s program participation based on gender.

2. Recommendations

a. Enhancing Inclusive Environment Efforts: Education and Awareness. The Physics Department may benefit from a focus on department-wide education and awareness on achieving a more inclusive environment, including more attention paid to addressing concerns around gender and other forms of bias, including subtle and unintentional bias. To better ensure that training, education, and awareness efforts achieve their intended objectives, OPHD may wish to collaborate with offices having either diversity or Title IX compliance responsibilities in a review of their various training modules to see if enhancements to any of them may be needed, and to ensure training provided by the two offices is consistent. Regarding form, consideration may be given to methods that tend to engage the learner, such as interactive exercises. Regarding content, consideration may be given to course designs with illustrative examples of discrimination and harassment that will resonate with the intended audience. In this regard, course curricula may be most effective when shaped by student participation in the design, for example, student focus groups that may offer insights into “real world” experiences. It is also important to clearly distinguish in the name of the training that sexual harassment and unconscious bias are different, just as harassment and intentional differential treatment are not the same thing. Berkeley Physics may also wish to provide NASA’s Unconscious Bias Learning Tool to the department and to consult with the

http://www.toolsforchangeinstem.org/, designed to address the issues of implicit

bias and lack of family friendly policies in the STEM fields and to share the site and its resources with the Physics Department. We would further recommend that Berkeley OPHD and Physics leadership, as well as other stakeholders, review other relevant material on NASA’s MissionSTEM website for ideas and information on addressing diversity and inclusion, for example, our D&I Leadership Series, which includes university presidents from across the nation talking about D&I measures they have taken in STEM, as well as our NASA Innovations Impact the World series, which showcases NASA scientists and technologists at all levels of the Agency discussing hugely positive societal impacts of STEM work.

Other universities reviewed by NASA have found it helpful to imbue training with the subtleties that are more likely to be familiar to today’s student body. See, e.g., NASA’s Title IX Promising Practices for STEM. For instance, the examples might focus more on unintended actions that may still have a detrimental effect, such as responding more favorably to members of one gender in the class-room setting, or providing more encouragement to members of one gender in the advising setting. In the harassment context, the illustrative examples should also be designed to reflect the range of inappropriate remarks and behavior, rather than a focus only on the most egregious examples. Another means of raising awareness on the issue might include a focus on the topics of women in STEM, or diversity in STEM, in forums in which the whole Physics community has an opportunity to present, such as the weekly colloquia.

b. Addressing Student Concerns Relating to the Preliminary Exam. The Physics Department should continue to work with OPHD and on establishing a multi-pronged strategy to address concerns relating to the Preliminary Exam. This should include further discussion with the graduate student population in a structured, perhaps facilitated environment, such as a focus group. Student concerns should be addressed through further communications to the graduate student population clarifying the purposes of the exam and how it is graded. These communications should be in writing from the chair or other graduate program director. The department should also speak openly with graduate students as a group, for example one or more “town hall” type gatherings.

c. Addressing Potential Disparate Impact in the Preliminary Exam. The Physics Department, in partnership with the Graduate School, should look carefully at the overall administration of the Preliminary Exam, starting with an examination of the pass/fail statistics by gender to determine whether there is a substantial, or statistically significant, disparate impact based on gender. To the extent that such a disparate impact exists, the department must establish that the Preliminary Exam is a valid predictor of students’ academic issues and is therefore consistent with the educational purposes of the program. Finally, if Physics finds that the Preliminary Exam meets these criteria, it must take steps to ensure that there is not an alternative means of administering the exam that will have not have a disparate impact. NASA will continue to monitor Physics’ efforts in this regard.

d. Parental Leave Policies and Resources. Berkeley should immediately review its policies relating to faculty, staff and student parental status, including pregnancy and childbearing. This review should be designed to ensure that the policies are in
conformity with Title IX requirements in the arena, particularly as they relate to pregnancy leave. To the extent that this review determines any aspect of Berkeley’s policy are not in conformity with Title IX, its regulations, and/or any guidance form OCR in this arena, the University should immediately take steps to revise the non-conforming policy or policies.

In addition, the Physics Department, in collaboration with the Title IX Coordinator and OPHD, should take steps to address the concerns around negative perceptions about pregnancy and parenting. In addition to information provided by the Chancellor in his memo on campus policies and guidelines, Physics faculty should familiarize themselves with the ED OCR booklet, Supporting the Academic Success of Pregnant and Parenting Students Under Title IX of the Education Amendments of 1972 (June 25, 2013). This document clarifies the specific requirements of Title IX applicable to pregnant and parenting students. The pamphlet contains a FAQ section that explains the Title IX requirements and provides examples to ensure that schools understand their obligations and pregnant and parenting students understand their rights under Title IX. Among these is a prohibition against harassment based on pregnancy, including making inappropriate pregnancy related jokes and comments. The pamphlet also provides information on strategies that educators may use and programs schools can develop to address the educational needs of students who become pregnant or have children. It also provides examples of promising practices designed to support pregnant and parenting students that schools may choose to implement. The sharing of this document department-wide is just one means of increasing understanding and awareness on this topic. OPHD should collaborate with Physics on other means of addressing Physics climates issues relating to pregnancy and parenting.

3. Promising Practices

a. **Society of Women in the Physical Sciences (SWPS).** SWPS is a student group run by female graduate students in Physics, Astronomy, Earth and Planetary Sciences and Biophysics. Their goals are to encourage women and minorities to study the physical sciences and to create a friendly and supportive environment in these departments for all students. SWPS provides networking and mentoring opportunities for female graduate and undergraduate students and seeks to promote the education and advancement of women of all ages in science and mathematics by working with schools and organizations throughout the Bay Area.

b. **COMPASS Project.** The COMPASS Project is a self-formed group of graduate and undergraduate students in the physical sciences at UC Berkeley. Their goals are to improve undergraduate physics education, provide participants with opportunities for professional development, and increase retention of students, especially those from populations typically underrepresented in the physical sciences. Compass fosters a diverse, collaborative student community by providing a wide range of services, including a summer program, fall and spring semester courses, mentoring, a research lecture series, and other academic and social support. Their efforts have been recognized by the American Physical Society, which presented Compass with the 2012 Award for Improving Undergraduate Physics Education.
III. CONCLUSION

Based on an evaluation of the data provided by the University and from onsite interviews and observations from its September 2013 onsite review, NASA finds Berkeley in compliance with the Title IX procedural requirements regarding coordination and self-evaluation. However, NASA also found that Berkeley should continue to enhance local implementing guidelines for and closely monitor the functioning of its Title IX grievance procedures and policy/procedures relating to parental status and pregnancy. This would include, but is not limited to, making any future revisions needed to conform these policies and procedures to Title IX regulations and/or ED/OCR guidance. We view the January 2016 finalization of the UC systemwide Sexual Violence and Sexual Harassment Policy, which replaces the Interim Policy on Sexual Harassment and Violence, as a first step in the direction of better ensuring such conformity. We will continue to monitor the University’s progress with regard to its plans for local implementing guidelines on this and other Title IX related policy and procedures.

NASA found that the Berkeley Physics program is in compliance with Title IX in that we did not find methods of administration that were having an adverse impact or otherwise limiting program participation in the Physics Department based on gender. Nonetheless, we remain concerned about some aspects of the climate in Physics. These concerns have been amplified by the sexual harassment occurring in the University’s Astronomy Department, which is proximate to Physics both as a scientific discipline and physically on the Berkeley campus. In light of these concerns, Physics should continue to conduct rigorous self-evaluation efforts, and to strategically address climate issues that may serve to undermine its equal opportunity efforts.

Physics also should work closely with the Title IX Coordinator’s office to ensure appropriate training for faculty and graduate students on Title IX related issues, such as sexual harassment and gender bias. A strong partnership between Physics and the Title IX coordinator’s office is also needed to effectively address concerns relating to inappropriate gender-related conduct, when they arise. The report recommendations on program administration are designed to help Berkeley and Physics in furthering their gender equity efforts. NASA will conduct a monitoring review on the University’s efforts to address our compliance recommendations six months from the issuance date of this report.