



TITLE IX COMPLIANCE REVIEW REPORT



**Northwestern University
Department of Materials Science and Engineering &
Department of Mechanical Engineering**

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I. Introduction

The Office of Civil Rights (OCR) of the United States Department of Energy (the Department or DOE) and the Office of Diversity and Inclusion (ODI) of the National Science Foundation (NSF) conducted a joint Title IX compliance review of the graduate program of the Department of Materials Sciences and Engineering (MSE) and the Department of Mechanical Engineering (ME) at Northwestern University in April 2017. OCR and ODI conducted the review pursuant to Title IX of the Education Amendments of 1972 (Title IX), as amended, 20 U.S.C. Section 1681, *et seq.*, and DOE's Title IX implementing regulations, 10 C.F.R. Parts 1042 and 1040¹ and the NSF Title IX implementing regulations at 45 C.F.R. Part 618. During the course of the compliance review, DOE requested and obtained data from the University and gathered data from the University's website. In May 2017, members of DOE's compliance review team held on-campus interviews with University administrators, including the University's Title IX Coordinator, students, faculty, and staff of the MSE and ME Departments. The facts, findings, and recommendations contained in this report are based on a review and an analysis of the data obtained from the University, including the University's website, as well as information obtained from the interviews held with students, faculty, staff, and administrators.

DOE and NSF support a diverse portfolio of research at colleges, universities, and research institutions across the United States, providing funding to more than 300 such institutions every year. The funding provided by the DOE and NSF for research at universities and colleges supports thousands of principal investigators, graduate students, and post-doctoral researchers.

A. Background

Title IX and DOE Title IX implementing regulations prohibit recipients of federal financial assistance, such as universities and colleges, from discriminating based on sex in any of their educational programs or activities. 20 U.S.C. § 1681(a); 10 C.F.R. § 1042.100 (2013). In addition, DOE Title IX implementing regulations require the Department to periodically conduct compliance reviews of recipients of DOE financial assistance to ensure compliance with the nondiscrimination requirements of Title IX. *See* 10 C.F.R. §§ 1042.605, 1040.101(a) (2013).

NSF has promulgated regulations to ensure that educational programs receiving NSF funds are free of gender discrimination and harassment. 45 C.F.R. § 618. NSF's regulation under Title VI of the Civil Rights Act of 1964 incorporated by reference to NSF's Title IX compliance responsibilities, require the agency to conduct periodic reviews of the practices of recipients to determine whether they are in compliance. ODI is charged with conducting compliance reviews under Title IX, and the Department of Justice (DOJ), pursuant to Executive Order 12250, has overall enforcement authority to ensure agencies are in compliance.

In July 2004, the Government Accountability Office (GAO) issued a report (GAO-04-639) entitled, "GENDER ISSUES: Women's Participation in the Sciences has Increased, but Agencies Need to do More to Ensure Compliance with Title IX." The purpose of the report was two-fold:

¹ DOE Implementing regulations (10 C.F.R. Parts 1040 and 1042) do not reflect the annual requirement that DOE conduct two Title IX reviews that are mandated in 20 U.S.C. § 1681. However, these regulations fully outline the review criteria used herein.

(1) to report on the status of women in the sciences; and (2) to evaluate the Title IX compliance activities of the four federal science agencies—DOE, the Department of Education, the National Aeronautics and Space Administration, and NSF. With respect to the status of women in the sciences, the GAO reported that the participation of women in the sciences at the undergraduate and graduate levels had increased over the past 30 years; however, the GAO reported that “[w]omen continue to major in the sciences and earn degrees in the sciences to a lesser extent than men.” The GAO also noted that some studies suggest that sex discrimination may still affect women’s choices and professional progress in the sciences. With respect to the Title IX compliance activities of the four federal science agencies, the GAO found that the agencies had taken steps, through the conduct of complaint investigations and the provision of technical assistance, to ensure that the institutions to which they provide financial assistance are in compliance with Title IX. However, the GAO noted that “[g]iven the general lack of knowledge and familiarity with the reach of Title IX and the disincentives for filing complaints against superiors,” the agencies needed to do more to judge whether sex discrimination exists in the sciences. To that end, the GAO made recommendations specific to each of the four federal science agencies. With respect to DOE, the GAO recommended that the Secretary of Energy ensure that compliance reviews of grantees are periodically conducted.

In August 2007, Congress passed, and the President signed into law, the America COMPETES Act, Pub. L. No. 110-69, § 5010, 121 Stat. 572, 620 (2007), which provided additional impetus for the Department to conduct compliance reviews. The Act states that DOE should (1) implement the recommendations contained in the GAO report, and (2) conduct at least two Title IX compliance reviews annually of recipients of DOE financial assistance. The Act was reauthorized in 2011.

B. Objective

The objective of the Title IX compliance review at the Northwestern University was three-fold: (1) to determine whether male and female applicants and students had equal access to the opportunities and benefits offered by the graduate program of the MSE Department and the ME Department; (2) to determine whether the University was in compliance with the requirements of Title IX, DOE Title IX implementing regulations, and NSF Title IX implementing regulations; and (3) to identify and report on any promising practices instituted by the University for promoting gender equity.

C. Scope

At Northwestern University, OCR elected to review the graduate component of the MSE Department and the ME Department. To determine whether graduate applicants and students, regardless of their sex, had equal access to the opportunities and benefits offered by the MSE Department and the ME Department, OCR evaluated the following areas and practices of each respective Department: (1) student enrollment; (2) recruitment and outreach efforts; (3) admissions policies; (4) leave of absence and re-enrollment policies; (5) financial assistance opportunities; (6) graduate examination and writing requirements; (7) the academic climate; and (8) student safety.

To determine whether the University was in compliance with the requirements of Title IX, DOE Title IX implementing regulations, and NSF implementing regulations, OCR evaluated the following: (1) whether the University has designated a Title IX Coordinator; (2) whether the University has taken continuing steps to notify the campus community about its nondiscrimination policies related to Title IX; and (3) whether the University has adopted and published grievance procedures providing for the prompt and equitable resolution of Title IX-related complaints, including sex discrimination and sexual harassment complaints.

II. Recruitment and Outreach

DOE and NSF Title IX implementing regulations prohibit recipients of financial assistance from discriminating based on sex in the recruitment of students. 10 C.F.R. § 1042.310 (2013) and 45 C.F.R. § 618.310. To determine whether the MSE and ME Departments were in compliance with this provision, OCR and ODI reviewed the recruitment and outreach activities of the MSE and ME Departments.

A. Recruitment and Outreach Activities

Table 1-Recruitment Outreach Activities with Method of Advertising for 2012-2017

Event/Activity	Description	Target Population
Choctaw Ivy League and Friends	Graduate Fair and presentation	Native American
Emerging Researchers National Conference	Graduate Fair	Underrepresented Minorities and Individuals with Disabilities
ENGINE Name Exchange Program	Personalized e-mail to prospective students	Underrepresented Minorities and Female students
GEM GRAD Lab at Northwestern	All day program about graduate admissions	Young People of Color
Mid-Michigan Symposium for Undergraduate Researchers	Graduate Fair	Increase diversity in health researchers
National Society of Black Engineers	Booth to meet with prospective students/ Grad Fair	Black students
Society of Hispanic Professional Engineers Conference	Graduate Fair	Hispanic students
Society of Women Engineers Regional Conference	Graduate Fair	Women students

Summer Research Opportunity Program	Presentation with participants	Minorities
U of Maryland Baltimore County	Presentation with Meyerhoff Scholars and graduate fair	Underrepresented minorities

Highlights: DOE and NSF observe that Northwestern University has many diversity-focused recruitment initiatives but only a few geared towards recruiting gender diversity. DOE and NSF recommend that Northwestern create a written recruitment strategy geared specifically for women that address the barriers women might face in coming to Northwestern University.

FINDING: In Compliance

B. Recruitment Incentives

Northwestern University offer special incentives as a means of attracting prospective students, including:

- **Cabell Fellowship.** The McCormick School of Engineering offers this fellowship to outstanding applicants who meet at least 3 of the following 4 numerical criteria: (1) GPA of 3.75 or higher; (2) Graduate Record Examination (GRE) Verbal score of at least 600 on the old scale or 160 on the new scale; (3) GRE Quantitative score of at least 780 on the old scale or 163 on the new scale; and (4) GRE Analytical Writing score of at least 4.0. All recipients receive the same amount of support, which typically is \$400-\$500/month more than what the University recommends for RA or TA support.
- **Ryan Fellowship.** The Graduate School offers this incentive, made possible by a generous donation from donors, to support incoming graduate students dedicated to the exploration of fundamental nanoscale science and to advancing this knowledge into practical applications of benefit to society. The fellowship includes a two-year \$7,500 stipend award above the program’s standard stipend. It also includes a \$2,500 (per year) research allowance for the fellow’s first two years of study. The rate/amount is the same for all recipients.
- **Data Science Fellowship.** The Graduate School began offering the Data Science Fellowship for incoming students during the 2015-2016 academic year. It supports graduate students dedicated to the exploration of fundamental and applied advancement in data science. The fellowship offer, which is the same for all recipients, consists of a \$10,000 stipend award above the program’s standard stipend, and a \$2,500 research allowance.

FINDING: In Compliance

C. Financial Incentive Offers by Gender

Table 2-MSE Department Financial Incentive Offers

MSE Department Financial Incentive Offers					
	Total	Male		Female	
	#	#	%	#	%
2012-2013	71	51	72%	20	28%
2013-2014	26	21	81%	5	19%
2014-2015	58	31	53%	27	47%
2015-2016	72	47	65%	25	35%
2016-2017	93	54	58%	39	42%

Table 3-ME Department Financial Incentive Offers

ME Department Financial Incentive Offers					
	Total	Male		Female	
	#	#	%	#	%
2012-2013	7	5	71%	2	29%
2013-2014	7	3	43%	4	57%
2014-2015	7	6	86%	1	14%
2015-2016	13	10	77%	3	23%
2016-2017	10	6	60%	4	40%

Highlights: DOE and NSF observe gender disparity in the number of financial incentive offers made by the MSE and ME Departments. In response, Northwestern indicated that the gender breakdown of the applicant pool, which was predominately male, affected this data point. NSF recommends that Northwestern University engage in a review of the financial incentive distribution process to determine if there are any gender-related barriers negatively affecting the number of female applicants receiving financial incentives.

FINDING: In Compliance

III. Admissions

DOE and NSF Title IX implementing regulations prohibit recipients of financial assistance from discriminating on the basis of sex in the admission of applicants. 10 C.F.R. § 1042.300 and 45 C.F.R. § 618.300. In determining whether a person satisfies a criterion for admission, or in making any offer of admission, recipients are prohibited from the following: giving preference to one person over another on the basis of sex; applying numerical limitations upon the number or proportion of persons of either sex who may be admitted; or otherwise treating one individual differently from another on the basis of sex. *Id.*

A. University Graduate Admissions Policies and Procedures

Northwestern University Admission Policy

Northwestern University's policy specifically states that it does not discriminate against any individual on the basis of race, color, religion, national origin, sex, sexual orientation, marital status, parental status, age, disability, citizenship status, or veteran status in matters of admissions, employment, housing or services, or in the educational program or activities it operates, in accordance with civil rights legislation and University commitment.

Graduate School Review of Applications Policy

The Graduate School Office of Admissions directs that the review of applications should be based on evidence that an applicant will succeed in graduate study as reflected by a scholastic record of both breadth and distinction. The office specifically follows the industry best practice listed below:

1. The selection process must not be arbitrary or capricious;
2. The institution may be bound, under a contract theory, to adhere to its published administrative standards and to honor its admission decision, and
3. The institution may not have admissions policies that unjustifiably discriminate on the bases of race, sex, age, disability, or citizenship.

Academic Requirements

All applicants receiving an offer of admission must have earned a bachelor's degree from a regionally accredited institution or the international equivalent (3-year bachelor's degrees are acceptable). Applicants who are not United States citizens or permanent residents, or whose native language is not English, must provide evidence of English proficiency.

Highlights: DOE and NSF find that the written criteria for admissions appear to be neutral, valid predictors of success, and are fairly applied. DOE and NSF applaud the Graduate School Office of Admissions for its inclusion of industry best practice language within its admissions policy.

FINDING: In Compliance

B. Graduate Admissions Application

To apply, applicants must submit an online application, statement of purpose, a \$95 non-refundable application fee, paid via credit card, transcripts for all previous academic work, and two letters of recommendation.

CollegeNET is the vendor that Graduate School uses for its graduate admissions process.

The Graduate School (TGS) may offer application fee waivers on a first come, first serve basis for applicants to the PhD or MFA programs if they are active duty military, a veteran, or meet the following criteria:

- Have an overall undergraduate GPA of at least 3.3 out of 4.0
- Identify as a first-generation college student
- Identify as a low-income individual as defined by the U.S. Department of Education
- Participate in GEM, McNair, Mellon Mays, MARC, or Northwestern TGS SROP or IGEN

The Graduate School partners with the McCormick School of Engineering & Applied Science to determine overall admission goals for new PhD students. These goals are created after collaborative discussions about openings and available funding. The McCormick School of Engineering & Applied Science Dean’s Office then assigns goals for each academic program within the school. The following table provides the goals for the two departments.

Table 4-MSE and ME Department Admission Targets

Program	Fall 2015	Fall 2016	Fall 2017
ME	15	25	22
MSE	36	40	39

Highlights: DOE and NSF do not consider the admission targets a compliance issue because they are determined by the neutral criteria of openings and funding.

FINDING: In Compliance

C. Department Specific Admissions

MSE Department Specific Admissions Process

The MSE Department evaluates academic performance, persistence, and commitment to assess applicants for its master’s and PhD programs. The applicant’s academic performance is measured by GPA, essay quality, and standardized test score. The GPA is scored on a scale of 1-4 based on GPA range.

Additionally, applicants are assessed on a scale from 0-2 for persistence and commitment using their essays, letters, and CV/resume. The specific factors considered under the umbrella of persistence and commitment are their leadership or engagement in other areas, diversity,² personal challenges, and other talents and interests.

Furthermore, applicants to the PhD program are evaluated for research potential. An applicant’s CV, essays, and letters are examined for quality and depth of experience, degree of independence and creativity, intellectual diversity, organizational skills, and technical leadership. Applicants are scored on a scale of 1-4 in this area.

² The University’s Graduate School has a Diversity Statement, which states that diversity can present itself in many forms, such as: socioeconomic status, race or ethnicity, religion, gender identity, gender expression, sexual orientation, nationality or place of origin, disability, unique work or life experience, etc. Northwestern University, *The Graduate School Diversity Statement*, <https://www.tgs.northwestern.edu/diversity/index.html>.

Highlights: DOE and NSF find that the criteria for admissions appear to be neutral, valid predictors of success, and are fairly applied.

FINDING: In Compliance

ME Department Specific Admissions Process

The ME Department uses a holistic admissions process that relies on many factors. Factors that are considered in admissions decisions include: past academic record (GPA); GRE scores; the institution from which the student graduated; past research experience and publications; match between student's academic background and faculty's research topic; recommendation letters; diversity; communication skills; and English skills (for international students). Individual faculty members review the applications in their respective areas of interest and recommend preferred students for admission to the respective area coordinators who serve on the Graduate Studies Committee. The Graduate Studies Committee members meet to determine candidates for admissions and fellowships. The Committee receives ranking information based on GPA and GRE scores but is advised that the information is for "screening" and reference only.

Highlights: DOE and NSF find that most of the criteria for admissions appear to be neutral, valid predictors of success, and are fairly applied. The exception is consideration of the institution from which the applicant previously graduated. In response, the University noted that when assessing candidates and their readiness for the program, there are differences when evaluating international applicants and their previous institutions and differences domestically in the competitiveness among American colleges and universities. Nevertheless, DOE and NSF find that this may be a subjective factor and not a proven predictor of success.

FINDING: In Compliance

D. Applicant-Admitted-Matriculated Data

Table 4 and 5 below, shows the number and percentage of students by gender, who applied to the graduate MSE program and ME program, respectively, for both M.S. and PhD degrees from Academic Year (AY) 2012-2013 to AY 2016-2017. The tables also show the number and percentage of male, female, and unidentified applicants who were admitted to the respective graduate programs, as well as the number and percentage of male, female, and unidentified applicants who matriculated in the program for the same time period.

Table 5-MSE Department Applicant-Admitted-Matriculated Data

		Total	Male		Female		Unidentified	
Summer/Fall 2012-2013	No. of Applicants	733	523	71%	210	29%	0	0%
	No. Admitted	130	85	65%	45	35%	0	0%
	No. Matriculated	57	36	63%	21	37%	0	0%
Summer/Fall 2013-2014	No. of Applicants	768	572	74%	194	25%	2	<1%
	No. Admitted	131	89	68%	42	32%	0	0%
	No. Matriculated	45	30	67%	15	33%	0	0%
Summer/Fall 2014-2015	No. of Applicants	726	502	69%	224	31%	0	0%
	No. Admitted	130	80	62%	50	38%	0	0%
	No. Matriculated	45	28	62%	17	38%	0	0%
Summer/Fall 2015-2016	No. of Applicants	774	537	69%	233	30%	4	<1%
	No. Admitted	174	125	72%	49	28%	0	0%
	No. Matriculated	70	52	74%	18	26%	0	0%
Summer/Fall 2016-2017	No. of Applicants	807	576	71%	226	28%	5	<1%
	No. Admitted	134	83	62%	50	37%	1	<1%
	No. Matriculated	55	39	71%	16	29%	0	0%

Highlights: DOE and NSF recognize that the MSE Department is accepting a higher percentage of female students than the percentage of female students noted in the applicant pool during most years. However, there are significant disparities in the ratio of male to female participants that applied and were admitted from AY 2012-2013 to AY 2016-2017. DOE and NSF suggest that the MSE Department examine its recruitment, admission, and enrollment processes to determine if there are any gender-related barriers negatively affecting the number of female applicants and enrolled students. As a part of such an examination, DOE and NSF recommend that the MSE Department survey accepted students who did not enroll to identify any gender-related barriers.

FINDING: In Compliance

Table 6-ME Department Applicant-Admitted-Matriculated Data

		Total	Male		Female		Unidentified	
Summer/Fall 2012-2013	No. of Applicants	532	444	83%	86	16%	2	<1%
	No. Admitted	82	61	74%	21	26%	0	0%
	No. Matriculated	29	24	83%	5	17%	0	0%
Summer/Fall 2013-2014	No. of Applicants	556	466	84%	89	16%	1	<1%
	No. Admitted	95	73	77%	22	23%	0	0%
	No. Matriculated	33	29	88%	4	12%	0	0%
Summer/Fall 2014-2015	No. of Applicants	629	509	81%	119	19%	1	<1%
	No. Admitted	104	80	77%	24	23%	0	0%
	No. Matriculated	36	29	81%	7	19%	0	0%
Summer/Fall 2015-2016	No. of Applicants	619	502	81%	116	19%	1	<1%
	No. Admitted	93	67	72%	25	27%	1	<1%
	No. Matriculated	36	29	81%	7	19%	0	0%

Summer/Fall 2016-2017	No. of Applicants	674	542	80%	128	19%	4	<1%
	No. Admitted	141	104	74%	37	26%	0	0%
	No. Matriculated	53	38	72%	15	28%	0	0%

Highlights: DOE and NSF recognize that the ME Department is accepting a higher percentage of female students than the percentage of female students noted in the applicant pool during most years. However, there are significant disparities in the ratio of male to female participants that applied and were admitted from AY 2012-2013 to AY 2016-2017. DOE and NSF suggest that ME examine their recruitment, admission, and enrollment processes to determine if there are any gender-related barriers negatively affecting the number of female applicants and enrolled students. DOE and NSF note that the Graduate School sends surveys to both applicants who will matriculate and those who did not accept offers of admission and compares responses and provides them to each department.

FINDING: In Compliance

IV. Financial Assistance

DOE and NSF Title IX implementing regulations state that in providing financial assistance to any of its students, a recipient shall not, on the basis of sex, provide different amounts or types of such assistance, limit eligibility for such assistance, apply different criteria, or otherwise discriminate. 10 C.F.R. § 1042.430 and 45 C.F.R. § 618.310. OCR and ODI evaluated the different types of financial assistance made available by the respective Departments to its students, including financial recruitment incentives, to determine compliance with this provision.

B. TA/GSR/Reader Positions by Gender

Table 7-MSE Department Assistantship Positions

MSE Department							
		TA/GA		RA		Total	
		#	%	#	%	#	%
2012-2013	M	11	65%	100	69%	111	69%
	F	6	35%	44	31%	50	31%
2013-2014	M	12	57%	95	71%	107	69%
	F	9	43%	38	29%	47	31%
2014-2015	M	12	60%	93	69%	105	68%
	F	8	40%	41	31%	49	32%
2015-2016	M	9	43%	115	74%	124	70%
	F	12	57%	41	26%	53	30%
2016-2017	M	17	77%	115	69%	132	70%
	F	5	23%	51	31%	56	30%

Note: M stands for Male and F stands for Female

Table 8-ME Department Assistantship Positions

ME Department							
		TA/GA		RA		Total	
		#	%	#	%	#	%
2012-2013	M	29	91%	70	84%	99	86%
	F	3	9%	13	16%	16	14%
2013-2014	M	27	84%	70	82%	97	83%
	F	5	16%	15	18%	20	17%
2014-2015	M	29	71%	65	76%	94	74%
	F	12	29%	21	24%	33	26%
2015-2016	M	18	69%	68	76%	86	74%
	F	8	31%	22	24%	30	26%
2016-	M	23	85%	75	78%	98	80%
2017	F	4	15%	21	22%	25	20%

Note: M stands for Male and F stands for Female

Northwestern University requires all PhD students to serve as Teaching Assistants during their graduate program, for at least one quarter. In the College of Engineering, all PhD students also serve as Research Assistants during their graduate education.

Highlights: DOE and NSF recommend that Northwestern University conduct an in-depth review of its Graduate Assistantship programs to fully determine if the MSE and ME Departments provide different amounts of compensation, types of positions, limit eligibility for certain positions, or apply different criteria based on gender.

FINDINGS: In Compliance

V. Student Enrollment

DOE Title IX implementing regulations prohibit recipients of financial assistance from discriminating on the basis of sex in the recruitment of students. 10 C.F.R. § 1042.310 (2013). To determine whether the MSE and ME Departments were in compliance with this provision, OCR reviewed the student enrollment policies, procedures, and data of the MSE and ME Departments.

A. Department Degree Completion Rates (Master/PhD)

Table 9-MSE Department Degree Completion Rates (Master/PhD)

MSE DEPARTMENT PERCENTAGE OF MALE AND FEMALE GRADUATES						
Academic Year	Degree	Total	Male	% of Total	Female	% of Total
2012-2013	Master	13	9	69%	4	31%
	PhD	29	19	66%	10	34%
2013-2014	Master	12	4	33%	8	67%

	PhD	22	15	68%	7	32%
2014-2015	Master	9	6	67%	3	33%
	PhD	33	27	82%	6	18%
2015-2016	Master	22	10	45%	12	55%
	PhD	27	19	70%	8	30%
2016-2017 ³	Master	11	8	73%	3	27%
	PhD	22	16	73%	6	27%
TOTAL	Master	67	37	55%	30	45%
	PhD	133	96	72%	37	28%

Highlights: When data for the five-year period were reviewed, it demonstrated that there is a 44% disparity between the number of female PhD degree recipients and the number of male PhD degree recipients. While there is no evidence of gender discrimination, the presence of such a disparity compels further examination to identify any discriminatory reasons for the disparity. DOE and NSF's recommendation is to evaluate the completion rates annually to look for barriers to completion for female master's and doctoral students.

FINDING: In Compliance

Table 10-ME Department Degree Completion Rates (Master/PhD)

ME DEPARTMENT PERCENTAGE OF MALE AND FEMALE GRADUATES						
Academic Year	Degree	Total	Male	% of Total	Female	% of Total
2012-2013	Master	16	13	81%	3	19%
	PhD	14	12	86%	2	14%
2013-2014	Master	16	15	94%	1	6%
	PhD	15	13	87%	2	13%
2014-2015	Master	22	19	86%	3	14%
	PhD	19	19	100%	0	0%
2015-2016	Master	21	18	86%	3	14%
	PhD	17	15	88%	2	12%
2016-2017 ⁴	Master	22	14	64%	8	36%
	PhD	12	8	67%	4	33%
TOTAL	Master	97	79	81%	18	19%
	PhD	77	67	87%	10	13%

Highlights: When data for the five-year period were reviewed, it demonstrated that there is a 74% disparity between the number of female PhD recipients and the number of male PhD degree recipients and a 62% disparity between the number of female master's degree recipients and the number of male master's degree recipients. While there is no evidence of gender discrimination,

³ Includes only students who graduated in Summer/Fall 2016.

⁴ Includes only students who graduated in Summer/Fall 2016.

the presence of a disparity compels further examination to identify any discriminatory reasons for the disparity. DOE and NSF's recommendation is to evaluate the completion rates annually to look for barriers to completion for female master's and doctoral students.

FINDING: In Compliance

B. Leave of Absence and Re-Enrollment Policies

DOE and NSF Title IX implementing regulations state that "no person shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any academic . . . or other education program or activity operated by a recipient" of financial assistance. 10 C.F.R. § 1042.400 and 45 C.F.R. § 618.400. DOE and NSF evaluated the MSE and ME Department's leave of absence, re-enrollment, and maternity/paternity leave policies to determine whether they comply with this general provision of nondiscrimination on the basis of sex.

Northwestern University Leave of Absence Policy

Leaves of absence are defined as a temporary separation from the University for a minimum of one quarter and a maximum of one year. Students who need to interrupt their progress towards degree may petition for a leave of absence. The three types of leaves are personal medical leave of absence, family medical leave of absence, and general leave of absence. Approved leaves of absence automatically extend milestone deadlines by the length of the leave, including the qualifying exam deadline and prospectus deadline for PhD students, and the degree deadline for master's and PhD students. Students on a leave of absence are not to fulfill any degree requirements during the time on leave. If a student plans to be away from the University to work on a thesis, dissertation, or other degree requirements, this would not constitute a leave of absence and would require enrollment.

C. Graduate Student Parental Accommodation Policy

The Parental Accommodation Policy aims to support active graduate students of all gender identities and expressions who become new parents by providing a period of parental accommodation, roughly equivalent to the length of a quarter (12 weeks), during which funding may continue for funded students. Graduate School milestone deadlines are also extended by one year (for all parents, funded or unfunded). Accommodations vary depending on the student's funding status and funding source. Funded graduate students may request paid leave from their duties for a 12-week accommodation period while unfunded graduate students may request unpaid leave from their studies for up to a 12-week accommodation period.

Eligible students will request a Parental Accommodation by submitting a Petition for Absence form at least 60 days prior to the accommodation start date (or as soon as possible in unforeseen circumstances). The Graduate School reviews to identify what financial and academic accommodations will be necessary. The Graduate School will notify the Director of Graduate Study (DGS) and the student of the approval and will update the student's record to reflect the extension of milestones and make any other necessary changes to the record. At the end of the 12-

week period, students will resume their studies. If additional time away is needed, students must file for the appropriate leave of absence.

Highlights: DOE and NSF recognize the inclusion of all gender identities and expressions in this policy as a promising practice. It is recommended that Northwestern University regularly review this policy and its administration to monitor for any potential barriers based on gender.

FINDING: In Compliance

D. Re-Entry Procedures⁵

Students who miss one or more quarters of registration (except for summer), or who fail to request return to their program after an approved period of leave of absence, or who request to withdraw from their program will be considered as not enrolled in the Graduate School and not considered as active students. The decision to readmit a former student is at the discretion of the program and The Graduate School. The Graduate School process for student re-admission requires an online application and payment \$250 plus tuition for each quarter of missed enrollment. Students who miss one or more quarters of registration, excluding summer, are automatically discontinued from their program. This application must be submitted at least six weeks before the desired date of reentry. Graduate programs review applications in the same pools as new student applications.

Highlights: DOE and NSF recommend that Northwestern University review the requirement of tuition payment for the missed quarters of enrollment to determine whether it presents a major barrier to re-entry for students wishing to re-enroll.

FINDING: In Compliance

E. Graduate Examination and Writing Requirements

DOE and NSF Title IX implementing regulations state that “no person shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any academic, extracurricular, research, occupational training, or other education program or activity operated by a recipient” of financial assistance. 10 C.F.R. § 1042.400 (2013) and 45 C.F.R. § 618.400. DOE and NSF evaluated the MSE and ME Departments’ administration of the oral candidacy examination, the dissertation defense, and the dissertation approval process to determine whether they comply with this general provision of nondiscrimination on the basis of sex.

⁵ It is noted that Northwestern University appears to have changed some of its criteria since the compliance review was conducted. Currently, the Graduate School process student re-admission requires an online application and payment of \$250 plus \$100 for each fall, winter, spring quarter of missed enrollment, up to a cap of \$1000. This application must be submitted no less than two weeks before the start of the winter, spring, and summer quarters and no less than four weeks before the start of the fall quarter.

Northwestern University Examinations Policy

In order to receive the master's degree, the student must complete all required coursework and the program's requirements for the degree, have at least a 3.0 cumulative GPA with no X, Y, or NR grades on transcript. If required by the program, the student must complete a thesis, oral presentation, or final exam as a part of the program of study for a master's degree. Students must complete all the requirements for the master's degree within five years of the date of their initial registration. For students on an approved leave of absence or approved parental accommodation, milestones will be extended accordingly.

For the PhD degree, the first two years of study are composed of coursework towards residency requirement. A minimum of nine quality letter-graded (ABC, not P/NP or S/U) courses are required. During the third year, students must complete all required courses (including incomplete grades/F grade make-up) and be admitted to candidacy (PhD Qualifying Exam) by the end of the twelfth quarter. The students must complete their prospectus by their fourth year and complete their PhD examinations and dissertation by year five, unless an extension is granted. All requirements for the doctoral degree must be met within nine years of initial registration in a doctoral program. For students on an approved leave of absence or approved parental accommodation, milestones will be extended accordingly.

Highlights: The master's and PhD examinations policy provides clear timelines and general requirements for graduate students to follow.

FINDINGS: In Compliance

VII. Academic Climate

A. Administrator and Faculty Interviews

Faculty members from both departments viewed the University's Policy on Extending the Probationary Period for Tenure-Track Faculty and the employment assistance for faculty spouses/partners positively. Northwestern University's Policy on Extending the Probationary period for Tenure-Track Faculty allows that an academic appointee may stop the clock during the probationary period where circumstances have arisen to interfere substantially with the research and/or other projects the faculty member intends to submit as part of his or her tenure review. Such circumstances may include parental responsibilities relating to the birth, adoption, or rearing of a child; personal or family emergencies, for example, chronic illness of the faculty member or a member of her/his immediate family; or problems beyond the faculty member's control relating to their research or scholarly activities.

Northwestern provides employment assistance for Faculty spouses/partners through their partnership with the Greater Chicago Higher Education Recruitment Consortium (GC HERC). GC HERC supports its member institutions in attracting outstanding faculty, administrators, and staff, with a particular focus on assisting dual-career couples through the sharing of information and resources. Additionally, Northwestern Career Advancement (NCA), the institution's career services office, invites all faculty and their spouses/partners to attend any career-related events and

programs on both the Evanston and Chicago campuses. Furthermore, spouses and partners can contact NCA for a consultation appointment with the Executive Director.

These respective policies and programs address traditionally gender-related barriers and demonstrate the University's commitment to the recruitment, promotion, and retention of female faculty.

Faculty and administrators speak highly of the family friendly policies and believe that the support for graduate students to have a successful academic career and healthy family life is strong. Specifically, the maternity/paternity leave policy, the number of childcare options, the availability of financial assistance for childcare, eldercare, and the lactation space received high praise. The University has an Office of Work Life and Family Resources with a full-time Director. This is a promising practice because it provides a dedicated consistent place for assistance and resources.

Faculty report some promising practices as advertising graduate programs at the end of each class, involving undergraduate students in their research, one on one recruiting efforts by female faculty. Faculty report great efforts to recruit students when they are travelling to conferences and speaking engagements.

Administrators report that there are no gender-based discrimination questions on course evaluations. Administrators spoke about efforts to address the "leaky pipeline" of applicants for their engineering programs. Administrators report an effort to be equitable and "data-based" in all parts of the enrollment process. The University is highly focused on email and posters as effective communication methods.

B. Student Interviews

DOE conducted interviews of graduate students in the MSE and ME Departments respectively during its two-day on-site visit.

The majority of the students that were interviewed knew of Title IX and had a basic understanding of what it is about. The students identified the Title IX Coordinator by name or explained how to contact the Title IX office if the necessity arose. Most of the students stated that they believed they had training at least once since they have been at Northwestern University, although many noted that it had been within the last two weeks.

All of the students interviewed did not feel their gender played any role in their recruitment, application, financial aid, or admissions process. Additionally, the majority of the students stated that they do not feel gender bias or discrimination based on their sex regarding their lab groups, research groups, and interactions with their faculty advisors. The majority of the students were aware of the leave of absence policies.

The majority of the students confirmed that the campus was safe and they were aware of the safety programs such as blue lights and campus police escorts. Several students mentioned the vagrancy problem in the Engineering Tower but none expressed impact on their feelings of safety on campus.

The majority of the students knew of another student in their department that was married and/or had children. The students like the discounted and subsidized childcare options and the lactation rooms. Northwestern University's TGC Child Care Grant program is a promising practice to assist graduate students with degree completion. The program offers portable childcare grants for eligible graduate students and can be used for any licensed day care or in-home care provider. Graduate students are also eligible for fee-based assistance at one of four childcare centers that offer priority enrollment to Northwestern. Funds are awarded to Northwestern families who demonstrate financial need and are full-time faculty, staff, or students. Students noted that the University has generous maternity and paternity leave policies.

C. Research Groups/Projects Composition

Table 11-MSE Department Research Groups/Projects Composition

ME DEPARTMENT Research Groups/Projects Composition					
Research Group/Project	Total	Male	% of Total	Female	% of Total
Barnett	9	6	67%	3	33%
Bedzyk	5	2	40%	3	60%
Brinson	4	2	50%	2	50%
Chang	2	2	100%	0	0%
Chung	2	2	100%	0	0%
Dravid	13	9	69%	4	31%
Faber	1	1	100%	0	0%
Haile	7	6	86%	1	14%
Hersam	19	13	68%	6	32%
Huang	9	5	56%	4	44%
Jacobsen	1	1	100%	0	0%
Joester	7	3	43%	4	57%
Kanatzidis	1	0	0%	1	100%
Kung	1	1	100%	0	0%
Lauhon	6	3	50%	3	50%
Luijten	1	1	100%	0	0%
Marks, L.	9	5	56%	4	44%
Marks, T.	1	0	0%	1	100%
Mirkin	12	10	83%	2	17%
Notestein	1	1	100%	0	0%
Odom	8	5	62%	3	38%
Olson	6	5	83%	1	17%
Olvera	7	5	71%	2	29%
Petford-Long	2	1	50%	1	50%
Rogers	2	1	50%	1	50%
Rondinelli	6	5	83%	1	17%
Seidman	8	7	88%	1	12%

Shah	4	1	25%	3	75%
Shull	7	4	57%	3	43%
Snyder	6	6	100%	0	0%
Stern	1	1	100%	0	0%
Stupp	12	11	92%	1	8%
Torkelson	1	0	0%	1	100%
Voorhees	5	5	100%	0	0%
Wolverton	18	14	78%	4	22%
TOTAL	204	144	71%	60	29%

Highlights: DOE and NSF observe that there are significantly more male students than female students in the research teams within MSE Department. Northwestern University did not provide enough data in order for DOE and NSF to determine if the MSE Department provides different research opportunities, limits eligibility for research projects, or applies different criteria based on gender. DOE and NSF recommend that the MSE Department monitor the gender diversity of each research group to determine if there are any factors, such as the gender of the sponsoring faculty member or gender stereotypes, that create gender bias in the team selection process or the assignment of student roles during learning activities.

FINDINGS: In Compliance

Table 12-ME Department Research Groups/Projects Composition

MSE DEPARTMENT					
Research Groups/Projects Composition					
Research Group/Project	Total	Male	% of Total	Female	% of Total
Argall	3	2	67%	1	33%
Balogun	4	4	100%	0	0%
Bazant	2	2	100%	0	0%
Brinson	7	5	71%	2	29%
Cao	13	9	69%	4	31%
Chen	6	5	83%	1	17%
Colgate	5	3	60%	2	40%
Cusatis	1	1	100%	0	0%
Ehmann	3	2	67%	1	33%
Espinosa	10	10	100%	0	0%
Gerber	2	0	0%	2	100%
Hartmann	4	2	50%	2	50%
Huang	3	3	100%	0	0%
Keten	8	5	62%	3	38%
Krishnaswamy	1	1	100%	0	0%
Liu	9	7	78%	2	22%
Lueptow	4	4	100%	0	0%
Lynch	5	5	100%	0	0%

Maciver	1	0	0%	1	100%
Murphey	10	4	40%	6	60%
Patankar	3	2	67%	1	33%
Qu	3	3	100%	0	0%
Rogers	2	1	50%	1	50%
Rouse	1	1	100%	0	0%
Rubenstein	1	1	100%	0	0%
Sun	2	2	100%	0	0%
Wagner	3	3	100%	0	0%
Wang	6	6	100%	0	0%
TOTAL	122	93	76%	29	24%

Highlights: DOE and NSF observe that there are significantly more male students than female students in the research teams within the ME Department. Northwestern University did not provide enough data in order for DOE and NSF to determine if the ME Department provides different research opportunities, limits eligibility for research projects, or applies different criteria based on gender. DOE and NSF recommend that the ME Department monitor the gender diversity of each research group to determine if there are any factors, such as the gender of the sponsoring faculty member or gender stereotypes, that create gender bias in the team selection process or the assignment of student roles during learning activities.

FINDINGS: In Compliance

VII. Title IX Regulation Compliance

DOE and NSF Title IX implementing regulations require each recipient of financial assistance to designate at least one employee to coordinate its efforts to comply with and to carry out its responsibilities under Title IX and DOE and NSF Title IX implementing regulations. 10 C.F.R. § 1042.135(a) (2013) and 45 C.F.R. § 618.135(a).

A. Title IX Coordinator and Investigator(s) Identification

The Title IX Coordinator is clearly denoted on the University website and in print media distributed by the institution. The Title IX Coordinator oversees the University’s response to reports involving sexual misconduct and sex discrimination, including the investigation and resolution of complaints. The Title IX Coordinator develops and implements policies, procedures, practices, and resources in support of compliance with Title IX. The Title IX Coordinator also monitors complaints for patterns and systemic issues, disseminates data periodically to the community, and coordinates campus climate surveys on sexual misconduct.

The Title IX Coordinator has received Title IX-specific training each year since 2011 from various known and reputable sources. Many of the trainings are webinars or other online formats.

Highlights: DOE and NSF believe that the online presence of the Office of Ethics and the Title IX Coordinator is significant. Additionally, the awareness of the Title IX Coordinators was evident among the students and faculty that were interviewed.

FINDINGS: In compliance

B. University Notification of Students, Faculty, and Staff

Northwestern University utilizes multiple mediums to communicate the Title IX policy, process, and procedures to the university community. The institution’s website contains multiple links to this information throughout. Posters and brochures are distributed throughout the physical campus and training sessions are provided several times per year.

Highlights: DOE and NSF promote Title IX training as a prime interactive opportunity to inform the campus community about the Title IX policy and procedures. Historically, Title IX training has not been mandatory at Northwestern University. DOE and NSF acknowledge that the institution has recently changed its position and will require Title IX training for all faculty, staff, and students.

FINDINGS: In Compliance

C. University Policy Related to Title IX

Table 13-Northwestern University Policy and Procedures

Document	Date of Last Update	Next Review/Update Frequency	Administrative Reviewer/Updater
Policy of Sexual Misconduct	August 2017	Annually	Office of the Provost; Office of Human Resources; Office of Student Affairs
Policy on Discrimination and Harassment	Unknown	Unknown	Office of Equity
Title IX Statement	Unknown	Unknown	Office of Equity
Consensual Romantic or Sexual Relationships Between Faculty, Staff and Students	May 19, 2014	Unknown	Office of the Provost; Office of Human Resources; Office of Student Affairs
Prohibited Use of Electronic Resources for Threats, Harassment, and Pornography	June 14, 2010	Unknown	Office of the Provost; Office of Human Resources
Policy of Non-Retaliation	August 2017	August 2020	Office of the Provost; Office of Human Resources

Policy of Civility and Mutual Respect	Unknown	Unknown	Office of Human Resources
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Highlights: DOE and NSF recognize the extensive policy and guidance provided to the institutional community as a best practice. Clear policies and guidelines are the first step in creating a safe and healthy community free from discrimination and gender bias.

FINDINGS: In Compliance

D. Self-Study

Table 14-Northwestern University Self-Evaluation

Date of Self-Evaluation	Responsible Administrator/Office	Review	Web Link to Study Report
May 2015	Office of Student Affairs and Office of Institutional Research	Northwestern University 2015 Campus Climate Survey on Sexual Misconduct	https://www.northwestern.edu/sexual-misconduct/docs/2015-campus-climate-survey-report.pdf

Highlights: DOE and NSF recognize the University’s 2015 Campus Climate survey as a promising practice. The recommendations document that was published in June 2016 as a result of the climate survey gave suggestions for improvement that can be summarized as: Strengthen Prevention Initiatives; Expand Support and Response Services; Enhance Marketing and Communications; and Conduct Future Climate Surveys.

FINDINGS: In Compliance

E. Resolution of Title IX-Related Complaints

Northwestern University processed seven Title IX related complaints by ME and MSE Department students from 2012-2017. The average number of days to resolution was 14 days. Two complaints were informally resolved at the complainant’s request, two complaints were closed without investigation due to a lack of response from complainant after initial report was made, two complaints were closed without investigation because the complainant decided not to move forward with a formal investigation, and one complaint was formally investigated.

Highlights: DOE and NSF note that Northwestern University appears to have followed University policy and procedures when processing the Title IX related complaints by ME and MSE students.

Findings: In Compliance

VIII. Conclusion

DOE and NSF recognize the effort that Northwestern University has put forth to comply with Title IX of the Education Amendments of 1972, DOE regulations, and NSF regulations. The Title IX compliance review team acknowledges the following promising practices at Northwestern University:

- The inclusion of industry best practice language within the admissions policy.
- The use of a neutral, third-party application system.
- The establishment of the Office of Work Life and Family Resources.
- The Policy on Extending the Probationary Period for Tenure-Track Faculty.
- The employment assistance for faculty spouses/partners.
- The access to University lactation rooms for nursing mothers on campus.
- The TGC Child Care Grant program to assist graduate students with degree completion.
- The University's 2015 Campus Climate survey.
- The inclusion of all gender identities and expressions in the Parental Accommodation Policy.

While Northwestern University is complying for many areas, there is still room for improvement. In order to establish a stronger level of compliance, DOE and NSF recommend the following actions:

- Create a written recruitment strategy geared specifically for women that addresses the barriers women might face in coming to Northwestern University.
- Conduct an in-depth review of its Graduate Assistantship programs to fully determine if the MSE and ME Departments provide different amounts of compensation, types of positions, limit eligibility for certain positions, or apply different criteria based on gender.
- Examine the recruitment, admission, and enrollment processes annually to determine if there are any gender-related barriers negatively affecting the number of female applicants and enrolled students.
- Review the financial incentive distribution process to determine if there are any gender-related barriers negatively affecting the number of female applicants receiving financial incentives.
- Evaluate the degree completion rates annually to look for barriers to completion for female master's and doctoral students.
- Monitor the gender diversity of each research group annually to determine if there are any factors that could create gender bias in the team selection process or the assignment of student roles during learning activities.
- Review the Parental Accommodation Policy and its administration annually to monitor for any potential barriers based on gender.
- Review the requirement of tuition payment for the missed quarters of enrollment to determine whether it presents a major barrier to re-entry for students wishing to re-enroll.