



# Peer Mentoring in Graduate School: Fostering Diversity & Inclusivity to Achieve Scholarly Excellence

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## Goal

We aim to build and sustain a more diverse and inclusive graduate program using *peer mentoring* to facilitate inclusive social interactions, improve collaboration, and drive stronger academic outcomes.

## Program structure & implementation

### Peer Mentor selection

- Selection:** Six senior PhD students are selected based on academic and research performance and prior involvement in the department
- Training:** Mentors meet biweekly w/faculty advisor, encouraged to participate in diversity and mentorship trainings offered through College of Engineering
- Compensation:** Mentors are incentivized with a \$3,000 stipend, half directly as stipend, half available for academic travel expenses

### Mentorship group implementation

- Structure:** Each peer mentor group consists of approximately six first-year PhD students (“mentees”) to one senior PhD student “Peer Mentor”
- Composition:** Mentees are assigned such that diversity in each group is maximized with respect to gender, race, citizenship, and topical research focus
- Participation:** Peer mentor program is compulsory for all incoming students, enforced as part of the grade for a pass/fail seminar course required of all first-year graduate students

### Curriculum and activities

- Frequency:** Groups meet once per week for social events and/or academic enrichment events (e.g. study halls, tutorials); topics covered shown below
- Inclusivity:** To ensure that all students can participate in social and academic activities regardless of financial situation, all mentor groups are provided with \$600 over the academic year to fund activities

Fall curriculum	Winter curriculum
<b>Academics</b> Study and review sessions Using Mathematica Using MATLAB  <b>Research on-boarding</b> How do you choose a lab? What is important? Using literature management technologies Keeping a lab notebook Quickly integrating into your lab and its work  <b>Career management</b> Setting goals and planning to achieve them Running productive meetings  <i>Social events throughout the semester</i>	<b>Research skills</b> Developing workplans for research projects Doing a literature review Making good scientific figures Making an effective Powerpoint presentation Writing papers using LaTeX or Word (tips & tricks)  <b>Candidacy exam preparation</b> Practice presentations Report peer reviews  <i>Social events throughout the semester</i>

## Program evaluation

- Quantitative:** Surveys were administered as a “Social and Academic Activities” assessment via email to all graduate students; surveys were conducted in December 2016 and May 2017 to establish peer mentor program impact
- Qualitative:** Peer Mentors provided feedback in 1:1 interviews; survey respondents had opportunity leave free response feedback

Matriculation	2016		2015		2014 and earlier	
	Mentored	Not Mentored	Mentored	Not Mentored	Mentored	Not Mentored
Program year	Year 2	Year 1	Year 2	Year 1	N/A	N/A
Population	28	25	25	81		
Dec 2016 survey respondents (68%)	19	18	22	22		
May 2017 survey respondents (84%)	21	26	26	27%		

We segment students as follows for demographic analysis:

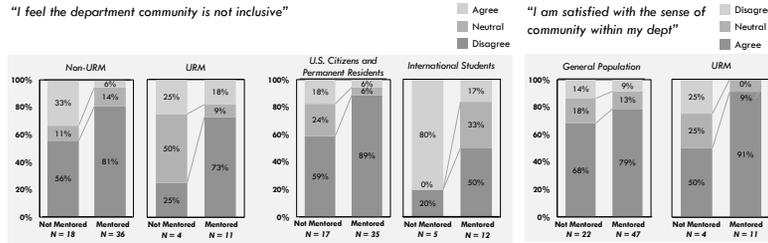
- URM:** Not white or Asian
- International:** Not a U.S. Citizen or permanent residents

## Results

### Goal 1: Improve department inclusivity, sense of community, and strength of peer social bonds

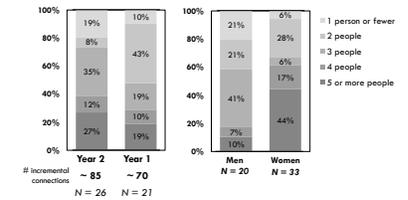
#### Higher perceived inclusivity and sense of community

“I feel the department community is not inclusive”



#### Wider social connections

“How many people in your cohort do you feel that you know better due to the peer mentor program?”

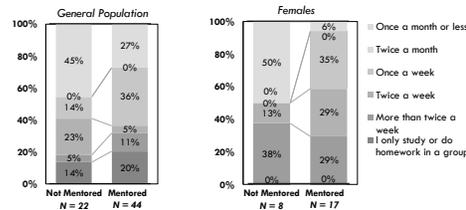


### Goal 2: Improve coursework and research outcomes for first-year graduate students

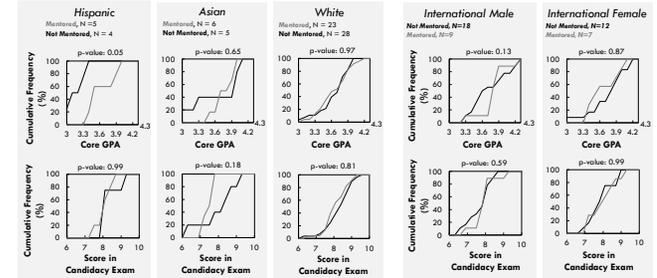
#### Increased frequency of collaboration

“How often is/was collaboration essential to your completion of coursework?”

“How often did/do you study or do your homework in a group?”



#### Higher GPAs and candidacy exam outcomes



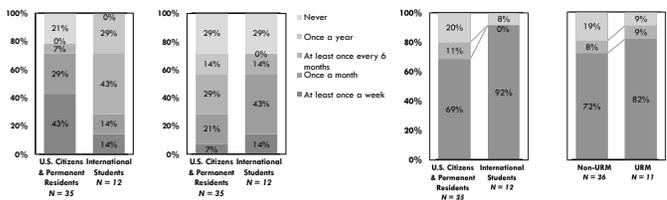
### Goal 3: Sustain outcomes beyond graduate students’ first year

#### Persistent peer group bonds after program completion

“How often do you interact with colleagues from your first-year peer mentor group socially?”

“How often do you interact with colleagues from your first-year peer mentor group in a research setting?”

“I am likely to seek/have sought out a colleague from my Peer Mentor group to give me feedback on a future research activity”



#### Strengthened Peer Mentor commitment to inclusion

“Being a mentor showed me the educational impact I can have an individual’s and group’s educational experiences; these experiences have reassured my desire to pursue a career in academia.”

“I will definitely push to have a similar program in any department I join. It takes the luck out of finding an older grad student to help you get on your feet in your first year. I’ve seen how much of an impact that can have.”

“Learning how to understand what motivates graduate students from diverse backgrounds gave me a tool I will use throughout my future career in academia.”

## Acknowledgements

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## Contact

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