Improving equity, diversity, and inclusion in a physics department: Recommendations from the EP3 Guide

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What is the EP3 Guide?

A living collection of knowledge & practices to support physics programs with collections of knowledge, experience, and proven good practice for responding to challenges and engaging in systematic improvement

• Led by APS, in collaboration with AAPT
• Supported by NSF and APS
• Based on research & experience of US physics community

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## EP3 Guide Content

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33 sections on how to run every aspect of your physics program

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- Recruiting of Undergraduate Physics Majors
- Retention of Undergraduate Physics Majors
- Advising and Mentoring of Students
- Internships
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- Career Preparation
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- How to Assess Student Learning
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- Original Contributors (3-6)
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- Task Force Review Committee

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Task Force Approval

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Editorial Director Oversight
1. Educate yourself and your department members (faculty, students, staff, and postdocs) about equity, diversity, and inclusion

A. Learn about equity, diversity, and inclusion in physics

1. Understand the differences between equity, diversity, and inclusion. Ensure that your initiatives address all of them, prioritizing equity above inclusion and inclusion above diversity, as discussed above.

2. Learn about stereotype threat, impostor phenomenon, implicit bias, myth of meritocracy, color blindness, microaggressions, privilege, and marginalization. Hover over any underlined term in this section to see its definition, and see Evidence below for details. Recognize your personal role, and the role of your departmental policies, in perpetuating or mitigating the effects of each of these phenomena on members of your department.

3. Learn about how underrepresentation, bias, and negative experiences of people from marginalized groups manifest themselves within physics. See Resources and Evidence below.

4. Recognize that physics culture's emphasis on excellence and intelligence usually hides an implicit bias against groups or people who appear to lack the "natural ability" to do physics because they are underprepared due to historical inequities and marginalization and/or because their skills are not recognized due to cultural differences. Recognize the ways in which physics culture rewards those who have
Equity, Diversity, and Inclusion

- Effective practices for making your department more equitable and inclusive for members of marginalized groups

Departmental Culture and Climate

- Effective practices for improving your departmental climate for everyone
Synthesis of contributions and reviews from experts in the physics community on equity, climate, and issues facing people of color, women, LGBTQ+ people, and disabled people along with recommendations from key reports and publications:

- Report on the Conference for Enhancing Undergraduate Physics Programs at Hispanic-Serving Institutions (2019)
- LGBT Climate in Physics: Building an Inclusive Community (2016)
- APS CSWP Effective Practices for Recruiting and Retaining Women in Physics
- ADVANCE program resources
**Equity, Diversity, and Inclusion**

- **Diversity**: recruiting people from marginalized groups into your department and retaining them, so that all levels of physics are representative of the range of people who could be physicists.

- **Inclusion**: creating an environment that supports everyone in feeling welcome in your department.

- **Equity**: ensuring that everyone has what they need to thrive in your department, which requires taking into account the ways that some groups of people have been and continue to be marginalized in society and in physics, and recognizing and challenging the structural and cultural barriers to full participation in physics and in your department that people from marginalized groups face.
Key recommendations for improving EDI in your department

1. Educate yourself and your department members about EDI

2. Analyze the current state of affairs for marginalized groups in your department

3. Create, publicize, implement, and assess an action plan for EDI

4. Pay separate attention to the particular needs and concerns of different groups and different individuals

5. Use known strategies to improve EDI
Key recommendations for improving EDI in your department

1. Educate yourself and your department members about EDI

Examples:

Learn about stereotype threat, impostor phenomenon, implicit bias, myth of meritocracy, color blindness, microaggressions, privilege, and marginalization. Hover over any underlined term in this section to see its definition, and see Evidence below for details. Recognize your personal role, and the role of your department, in perpetuating or mitigating the effects of each of these phenomena on members of your department.

Identify and partner with campus offices and student groups that are working to support students from marginalized groups and to improve equity, diversity, and inclusion. Include regular two-way communications between your department and these offices and groups.
Key recommendations for improving EDI in your department

2. Analyze the current state of affairs for marginalized groups in your department

Examples:

Ensure that departmental leaders, especially those from dominant groups, work to build trust and relationships with people from marginalized groups and include them as partners and leaders in the work of understanding the current state of affairs and developing and enacting plans for change.

Consider hiring consultants to evaluate and support improvement of equity and inclusion in your department. Identify consultants who have both scholarly expertise in equity, diversity, and inclusion and lived experiences as members of marginalized groups.
3. Create, publicize, implement, and assess an action plan for EDI

Examples:

Get broad participation and departmental and institutional support in equity efforts rather than relying on isolated champions who volunteer with little support from others.

Address problems with equity and inclusion before attempting to increase the diversity of your department. Otherwise, diversity initiatives are likely to be unsuccessful and may cause harm to people from marginalized groups who are recruited into a hostile environment.
4. Pay separate attention to the particular needs and concerns of different groups and different individuals

Examples:

Learn about the ways in which the intersection of identities can shape the forms of discrimination and bias that people experience within physics. For example, misogyny may manifest itself in different ways against Black women and white women, and racism may manifest itself in different ways against Asian women and Asian men.

Pay particular attention to the needs of LGBTQ+ people who are also members of other marginalized groups, who are likely to face greater levels of discrimination and additional issues. For example, many LGBTQ+ people of color report not feeling fully at home in majority-white LGBTQ+ groups or in majority cis/straight groups for people of color.
Key recommendations for improving EDI in your department

5. Use known strategies to improve EDI

Examples:

Focus on creating a supportive environment in which people from marginalized groups can thrive and on addressing systemic and cultural problems in your department that prevent them from doing so, rather than on fixing people so they can better survive in a hostile environment.

Encourage departmental leaders to be advocates for members of marginalized groups to proactively mitigate challenges they might face.

Incentivize and reward multiple faculty members, including those who do not identify as members of marginalized groups, to actively support students from marginalized groups.
Key recommendations for improving your culture and climate

1. Engage the whole department in a review of department climate

2. Establish and communicate a collective vision for a healthy climate

3. Create and nurture a culture where everyone is welcome, included, and supported

4. Value and support healthy relationships among all members and groups with the department

5. Create and nurture programs, processes, and policies that support continuous improvement and broad voice
Encourage instructors to view struggling students as needing support to reach their full potential, rather than as inherently lacking the intelligence or math preparation needed to pursue physics.  
*(Recruiting of Undergraduate Physics Majors)*

Recognize that color-blind strategies (i.e., treating everyone the same regardless of race or ethnicity) do not explicitly address the needs of students from marginalized groups and are insufficient to support and retain these students.  
*(Retention of Undergraduate Physics Majors)*

Create an inclusive mentoring program, emphasizing cultural responsiveness and awareness of the ways that culture and identity impact mentoring relationships.  
*(Advising and Mentoring of Students)*
Example recommendations on equity from across EP3 Guide

Systematically track which students are participating in undergraduate research, and look for and address sources of inequity.  
(Undergraduate Research)

Discuss historical contributions to computation by women and people of color, e.g., Katherine Johnson, Dorothy Vaughan, Grace Hopper, and Ada Lovelace.  
(Computational Skills)

Recognize that faculty and mentors may have implicit bias with regard to which kinds of careers they recommend to which students. Actively work to overcome such bias.  
(Career Preparation)
How to use the EP3 Guide

- The EP3 Guide is not a ‘To Do’ list.
- Engage in cyclic self-reflection
- Commit to shared action and ownership
- Use data to realize a shared mission
- Choose a few critical topics to focus on
- Create and enable clear steps
- Reflect on actions to guide next steps
Learn more:

Check out the Guide and join our mailing list at EP3guide.org

Go deeper:

EP3 Departmental Action Leadership Institutes (DALIs)
In-depth training for departments facing a major challenge or opportunity and/or wanting to make a significant change

EP3guide.org/DALI