

Guide for Undergraduate Physics Program Assessment, Review, and Improvement

1. **Develop a guide for self-assessment of undergraduate physics programs founded on documented best practices linked to measurable outcomes**

The guide should provide a physics-community-based resource to assist programs in developing a culture of continuous self-improvement, in keeping with their individual mission, context, and institutional type. The guide should include considerations of curricula, pedagogy, advising, mentoring, recruitment and retention, research and internship opportunities, diversity, scientific skill development, career/workforce preparation, staffing, resources, and faculty professional development.

2. **Recommend a plan for ongoing review and improvement of this guide under the oversight of the APS Committee on Education**

APS BPUPP Task Force Members

Co-Chair: David Craig, Le Moyne College

Co-Chair: Michael Jackson, Millersville University of Pennsylvania

- Noah Finkelstein, University of Colorado Boulder
- Courtney Lannert, Smith College and UMass Amherst
- Ramon Lopez, University of Texas at Arlington
- Willie Rockward, Morehouse College
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- Kathryn Svinarich, Kettering University
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Project Manager: Sam McKagan

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AAPT Liaison: Bob Hilborn

www.aps.org/bpupp

Designing a process to help department chairs with:

- Periodic program assessment (departmental review)
- Improve usefulness of assessment
- Bring together known literature on topics, and best practices when there is insufficient evidence-based knowledge about topics
- Encourage discussions in departments on continuous improvement of physics major using evidence-based methods
- Provide a leverage point for departments to advocate for resources to improve the major
- Engage PER community on departmental needs

- Recruitment and retention (enrollment strategies, degree tracks, partnerships, student interactions)
- Student learning (curriculum, education research, undergraduate research)
- Career preparation (teacher preparation, graduate school, diverse careers)
- Assessment (program and student learning)
- Diversity and equity
- Department climate and faculty professional development
- Department leadership
- Program Review (for reviewers and departments)

STB*: Requests to APS to do what ACS does: Program Certification

2012: APS leadership asks to investigate

2013: Working group formed to investigate

2014: Survey of physics chairs, report written

2015: Committee on Education (COE) discusses, and makes recommendation to APS Council; ABET announces intention to accredit all science fields

2015: APS Council charges COE to form task force

2016: COE begins process, drafts preliminary documents, recruits task force

2016: Task force starts meeting

2017: Applied for funding, beginning drafts and discussions on underlying issues

*Since Time Began

- 2017:** Initial drafts; external input on drafting sections; external section reviews by invited department chairs and experts in the field
- 2018:** Limited release of first sections; feedback from community; continued development and feedback
- 2018:** Begin workshops on use of guide; training of departmental reviewers
- 2019:** Release of entire (1st edition) of guide; continued workshops
- 2020:** First review by COE to update/improve content, updating of review procedures to ensure fidelity of design principles

- Take a piece of paper
- Write one or two things you would like addressed in this guide or would like to contribute to it
- Pass the paper to the aisles

- 0. Prepare students for diverse careers
- 1. Increase number of graduates
- 2. Improve program pedagogy
- 3. Increase diversity and inclusion
- 4. Improve student success & satisfaction
- 5. Develop, review and assess (program) curricular and degree program offerings
- 6. Develop, implement and maintain effective cycle of program improvement
- 7. Develop and implement strategic planning processes and evaluate program constraints and resources
- 8. Prepare for departmental review and accreditation.
- 9. Improve professional environment for faculty
- 10. I'm a new chair. Help! (New employee orientation)