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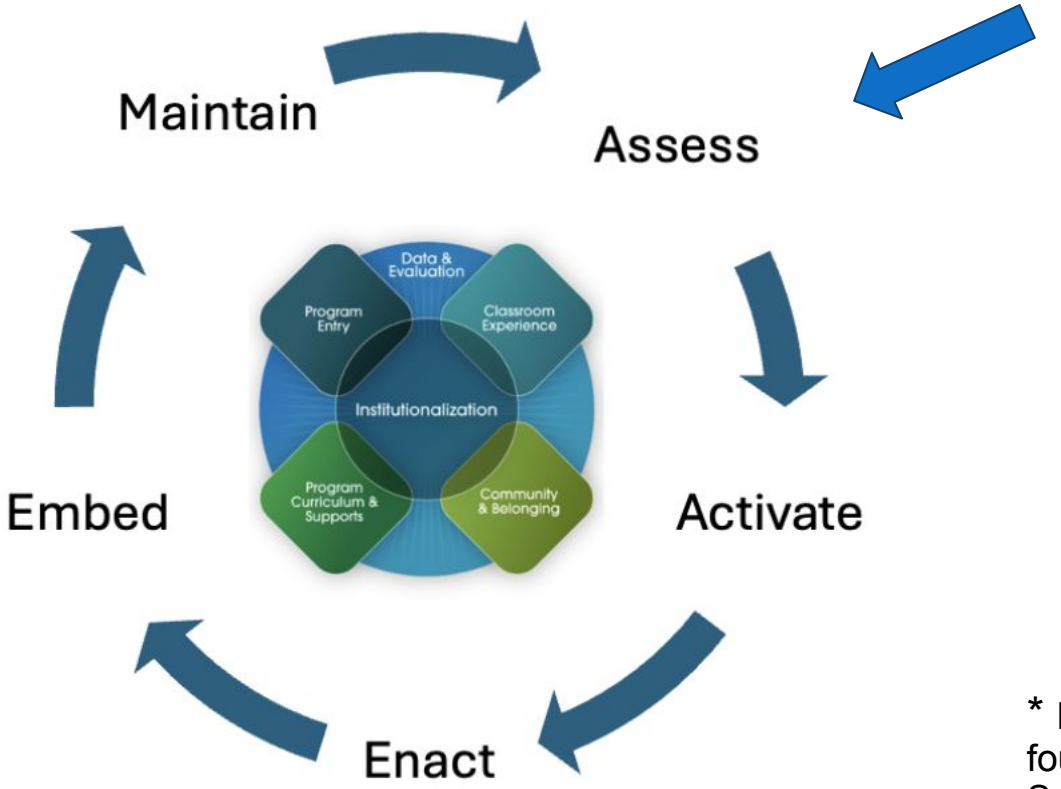
NCWIT Learning Circles for Undergraduate Programs

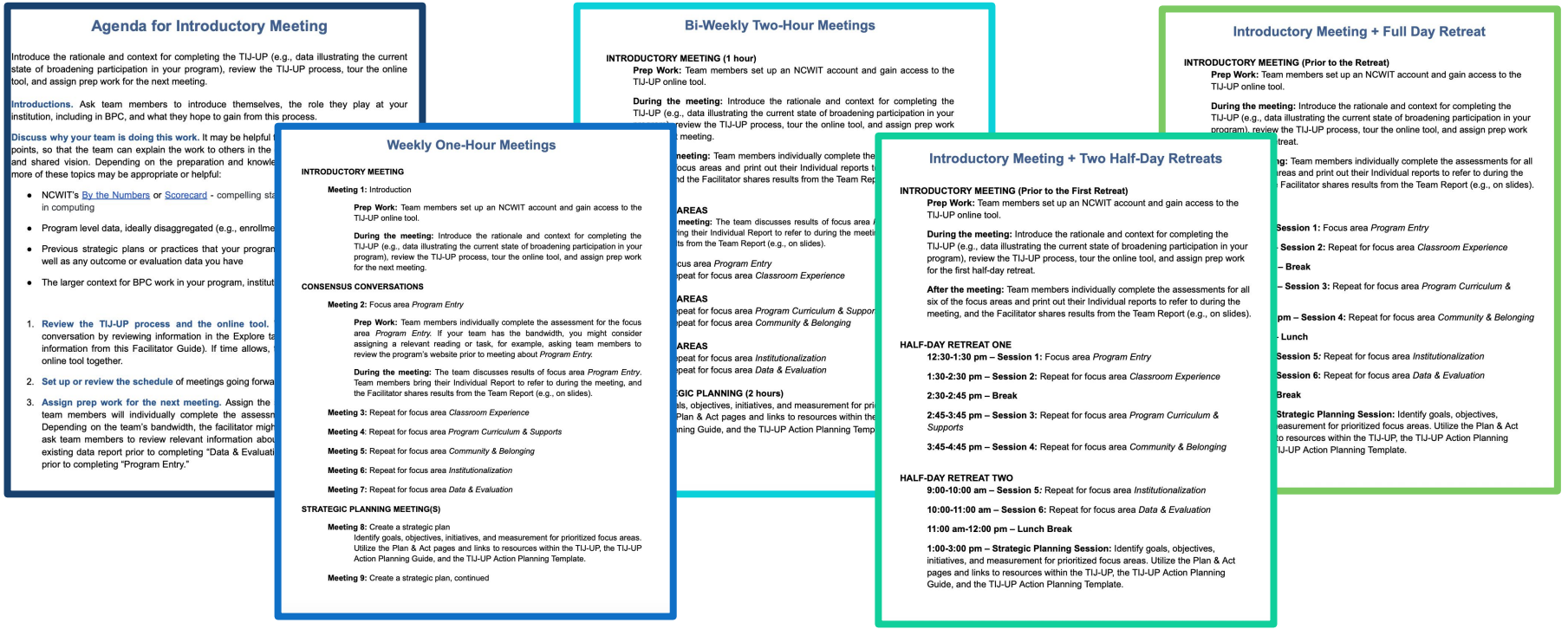
Session 4 – Facilitating with the TIJ-UP



Facilitating with the TIJ-UP

* **NOTE:** Additional resources can be found in NCWIT's Learning Hub within Sessions 3 & 4

Scheduling Consensus Conversations



Agenda for Introductory Meeting

Introduce the rationale and context for completing the TIJ-UP (e.g., data illustrating the current state of broadening participation in your program), review the TIJ-UP process, tour the online tool, and assign prep work for the next meeting.

Introductions. Ask team members to introduce themselves, the role they play at your institution, including in BPC, and what they hope to gain from this process.

Discuss why your team is doing this work. It may be helpful t
points, so that the team can explain the work to others in the
and shared vision. Depending on the preparation and knowle
more of these topics may be appropriate or helpful:

- NCWIT's By the Numbers or Scorecard - compelling sta
in computing
- Program level data, ideally disaggregated (e.g., enrollme
- Previous strategic plans or practices that your program
well as any outcome or evaluation data you have
- The larger context for BPC work in your program, institut

1. **Review the TIJ-UP process and the online tool.**
conversation by reviewing information in the Explore ta
information from this Facilitator Guide). If time allows,
online tool together.
2. **Set up or review the schedule** of meetings going forwa
3. **Assign prep work for the next meeting.** Assign the
team members will individually complete the assessm
Depending on the team's bandwidth, the facilitator migh
ask team members to review relevant information abou
existing data report prior to completing "Data & Evaluati
prior to completing "Program Entry."

Weekly One-Hour Meetings

INTRODUCTORY MEETING

Meeting 1: Introduction

Prep Work: Team members set up an NCWIT account and gain access to the TIJ-UP online tool.

During the meeting: Introduce the rationale and context for completing the TIJ-UP (e.g., data illustrating the current state of broadening participation in your program), review the TIJ-UP process, tour the online tool, and assign prep work for the next meeting.

CONSENSUS CONVERSATIONS

Meeting 2: Focus area *Program Entry*

Prep Work: Team members individually complete the assessment for the focus area *Program Entry*. If your team has the bandwidth, you might consider assigning a relevant reading or task, for example, asking team members to review the program's website prior to meeting about *Program Entry*.

During the meeting: The team discusses results of focus area *Program Entry*. Team members bring their Individual Report to refer to during the meeting, and the Facilitator shares results from the Team Report (e.g., on slides).

Meeting 3: Repeat for focus area *Classroom Experience*

Meeting 4: Repeat for focus area *Program Curriculum & Supports*

Meeting 5: Repeat for focus area *Community & Belonging*

Meeting 6: Repeat for focus area *Institutionalization*

Meeting 7: Repeat for focus area *Data & Evaluation*

STRATEGIC PLANNING MEETING(S)

Meeting 8: Create a strategic plan
Identify goals, objectives, initiatives, and measurement for prioritized focus areas. Utilize the Plan & Act pages and links to resources within the TIJ-UP, the TIJ-UP Action Planning Guide, and the TIJ-UP Action Planning Template.

Meeting 9: Create a strategic plan, continued

Bi-Weekly Two-Hour Meetings

INTRODUCTORY MEETING (1 hour)

Prep Work: Team members set up an NCWIT account and gain access to the TIJ-UP online tool.

During the meeting: Introduce the rationale and context for completing the TIJ-UP (e.g., data illustrating the current state of broadening participation in your
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meeting.

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peat for focus area *Classroom Experience*

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peat for focus area *Program Curriculum & Suppor*
peat for focus area *Community & Belonging*

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peat for focus area *Institutionalization*
peat for focus area *Data & Evaluation*

GIC PLANNING (2 hours)
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Plan & Act pages and links to resources within the
ning Guide, and the TIJ-UP Action Planning Temp

Introductory Meeting + Two Half-Day Retreats

INTRODUCTORY MEETING (Prior to the First Retreat)

Prep Work: Team members set up an NCWIT account and gain access to the TIJ-UP online tool.

During the meeting: Introduce the rationale and context for completing the TIJ-UP (e.g., data illustrating the current state of broadening participation in your program), review the TIJ-UP process, tour the online tool, and assign prep work for the first half-day retreat.

After the meeting: Team members individually complete the assessments for all six of the focus areas and print out their Individual reports to refer to during the meeting, and the Facilitator shares results from the Team Report (e.g., on slides).

HALF-DAY RETREAT ONE

12:30-1:30 pm – Session 1: Focus area *Program Entry*

1:30-2:30 pm – Session 2: Repeat for focus area *Classroom Experience*

2:30-2:45 pm – Break

2:45-3:45 pm – Session 3: Repeat for focus area *Program Curriculum & Supports*

3:45-4:45 pm – Session 4: Repeat for focus area *Community & Belonging*

HALF-DAY RETREAT TWO

9:00-10:00 am – Session 5*:* Repeat for focus area *Institutionalization*

10:00-11:00 am – Session 6: Repeat for focus area *Data & Evaluation*

11:00 am-12:00 pm – Lunch Break

1:00-3:00 pm – Strategic Planning Session: Identify goals, objectives, initiatives, and measurement for prioritized focus areas. Utilize the Plan & Act pages and links to resources within the TIJ-UP, the TIJ-UP Action Planning Guide, and the TIJ-UP Action Planning Template.

Introductory Meeting + Full Day Retreat

INTRODUCTORY MEETING (Prior to the Retreat)

Prep Work: Team members set up an NCWIT account and gain access to the TIJ-UP online tool.

During the meeting: Introduce the rationale and context for completing the TIJ-UP (e.g., data illustrating the current state of broadening participation in your program), review the TIJ-UP process, tour the online tool, and assign prep work
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Session 1: Focus area *Program Entry*

Session 2: Repeat for focus area *Classroom Experience*

– Break

– Session 3: Repeat for focus area *Program Curriculum &*

pm – Session 4: Repeat for focus area *Community & Belonging*

Lunch

Session 5: Repeat for focus area *Institutionalization*

Session 6: Repeat for focus area *Data & Evaluation*

Break

Strategic Planning Session: Identify goals, objectives,
easurement for prioritized focus areas. Utilize the Plan & Act
o resources within the TIJ-UP, the TIJ-UP Action Planning
IJ-UP Action Planning Template.

Preparation Recs for Team Leads

1. Provide adequate time (~hour/focus area)
2. Familiarize yourself with the team report ahead of time
3. Consider other relevant data (but keep it simple and doable)

Facilitating Meetings & Building Consensus

1. Review the Purpose & Guidelines

2. Revisit the Focus Area

3. Discuss the Team Report

4. Take Notes

5. Repeat

* **NOTE:** Additional resources and scripts can be found in NCWIT's Learning Hub within Session 4

Use the Team Report to Reach Consensus…

Approaching Consensus

There seems to be team consensus, as the responses are clumped closely together.

Lack of Consensus

There is disagreement around whether the component is effective or ineffective, with a spread in team responses.

Use the Team Report to Determine…

Program Strengths

Example of a focus area component that team members view as effective.

Program Opportunities

Example of a component that is an opportunity for growth, as members view it as ineffective.

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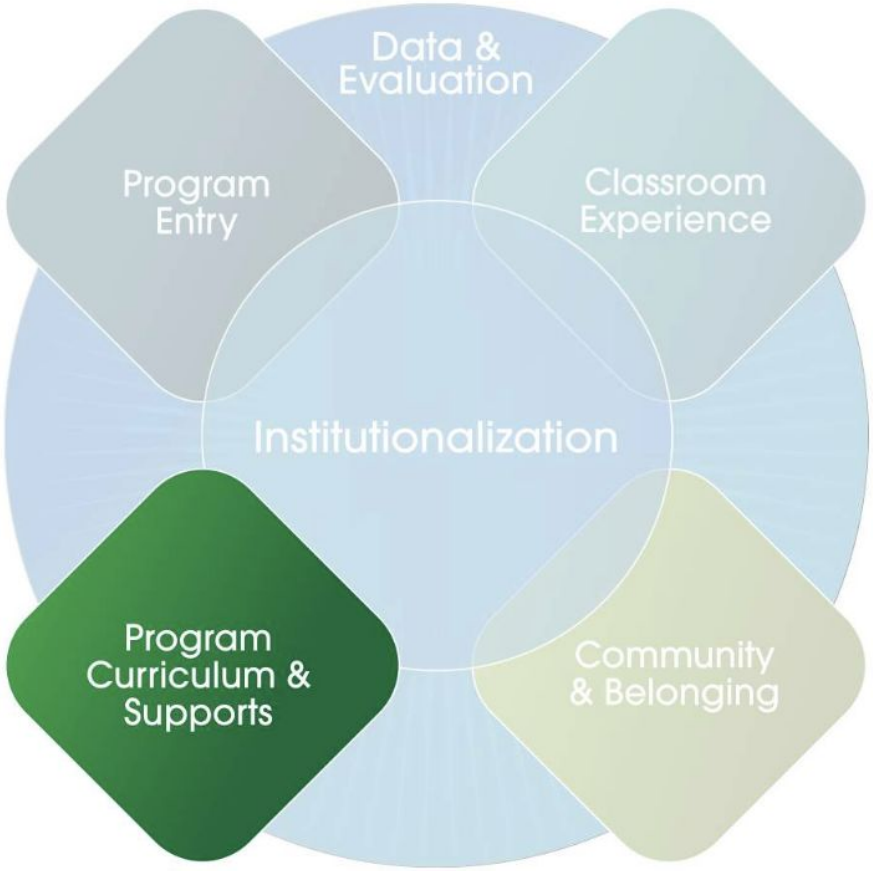
Mock Consensus Conversation

Program Curriculum & Supports

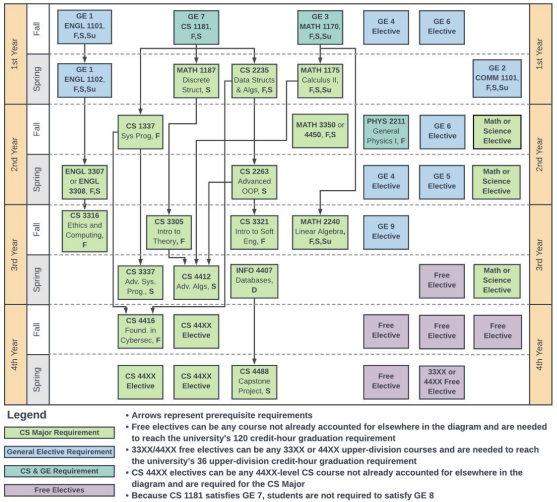
The goal of this focus area is to ensure that the program's curriculum and support structures promote academic success, professional preparation, and timely progress through the program for all students.



Program Curriculum & Supports

**Optional* Additional Context and/or Relevant Data Ideas

Sample 4-year plan



Address Lack of Prior Computing Experience

Students often enter computing programs with a range of preparation and prior computing experience, and programs may need to provide courses or co-curricular opportunities to ensure that all students learn the fundamental skills needed to succeed in the program. How programs address this challenge will depend on a program's size, resources, and their larger institutional context, but examples include:

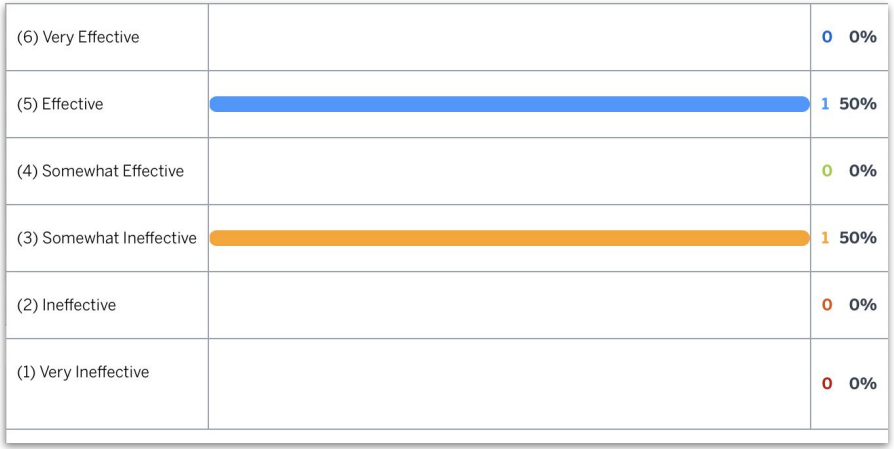
- Summer bridge programs for accepted students who would benefit from additional preparation;
- Separate courses for students with different experience levels (e.g., a true introductory or CS-0 computing course for novices);
- Separate sections of the CS-1 course based on experience level;
- A spatial visualization or MediaComp course;
- Supplemental instruction or tutoring.

How effective is your program at supporting students who have no prior experience in computing?

Curriculum that Supports Timely Progress

Programs can facilitate students' timely degree completion by implementing curricula and program features that support students of all backgrounds and experience levels. For example:

- Spread difficult early courses across terms to reduce burnout and build confidence;
- Provide long-term course plans that specify when students should take required and recommended courses;
- Sequence required courses to distribute workload evenly, remove "pinch points," and scaffold knowledge;
- Address courses with high percentages of students receiving a grade of "D" or "F" or withdrawing (DFW rates);
- Support timely completion for transfer students (e.g., with articulation agreements, credit transfers and course equivalencies, clear pathways through the major).



How effective is your program at structuring a curriculum that supports students' timely progress through the program?

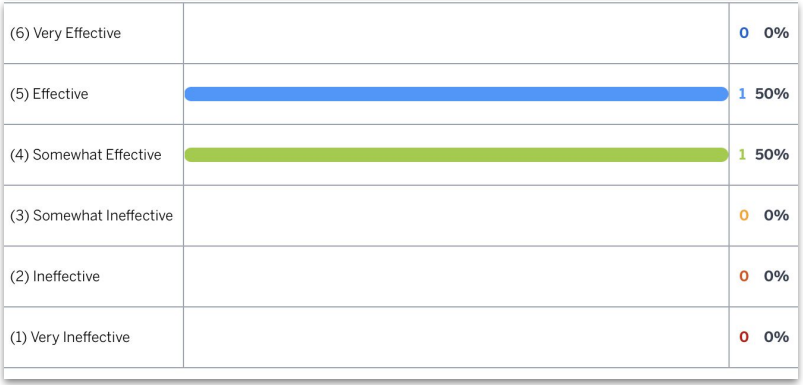
Co-Curricular Experiences

Co-curricular activities such as research experiences, service learning courses, internships, and capstones provide opportunities for students to apply concepts learned in courses, strengthen computing identity, and gain skills for employment or graduate studies, while e-portfolios enable students to showcase and reflect on their work. It's important to make sure that all students access these experiences by incorporating them into the program curriculum.

How effective is your program in offering and engaging all students in co-curricular experiences that increase their professional preparation?

Regular Advising

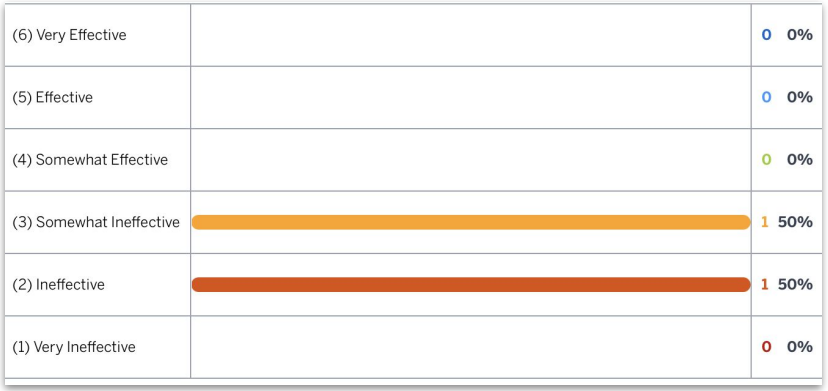
Students are often unaware of the intricacies of course requirements and sequencing, thus timely advising is crucial to help them to make informed decisions, manage their workload, and maximize their educational opportunities. Annual (or more frequent) check-ins provide opportunities to identify and head off issues that may stall students' progress or prevent them from completing their degree on time. Finally, advising that scaffolds autonomy and allows students to track their own progress in the program helps students take responsibility for long-term planning of their degree path and their career.



How effective is your program at ensuring that all students receive regular advising (i.e., at least once a year)?

Early Detection and Intervention

Actively monitoring student performance and connecting students with appropriate services or interventions can help avoid more serious consequences, like failing a course or withdrawing from the program. Institution- or program-wide early alert systems help by providing structure for the timing, criteria, and procedures for reporting and intervening. But even when a formal system is in place, faculty will likely be the first to notice signs of student distress such as absences, missed assignments, poor grades, or problematic behavior, and can reach out by email or in person to express concern and offer help. Programs can help by encouraging faculty to act and by ensuring that they are knowledgeable about support services available to students. Critically, programs must ensure that early alerts lead to consistent follow-up and intervention.



How effective is your program at identifying and supporting students who are struggling?

Teaching Assistant Training

Students serving in support roles, such as teaching assistants, tutors, and peer mentors, are an important point of contact for students in your program. This is especially true if the number of students is increasing or large class sizes are common, thus limiting faculty's ability to connect individually with students. Teaching assistants and tutors not only help students learn the material, but also serve as role models and mentors. Unfortunately, students in support roles can also negatively impact students if they lack effective teaching or mentoring skills, display or reinforce stereotypes about computing, or lack preparation for working with a diverse range of students.

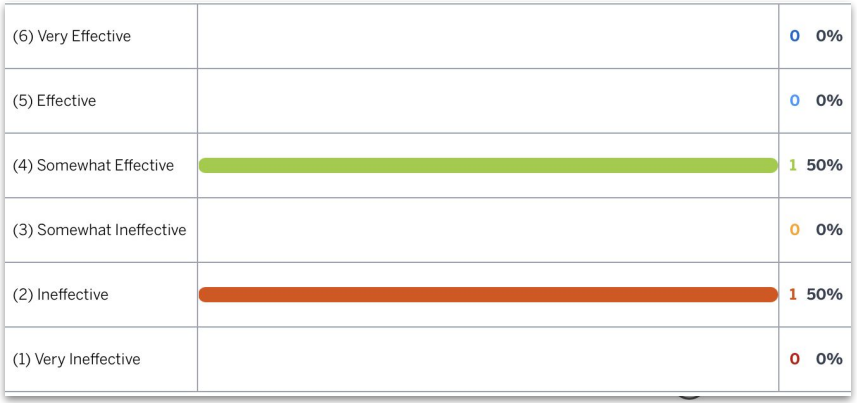
To select students for support roles:

- Encourage promising candidates from various backgrounds and prior experience levels to apply;
- Establish formal selection criteria so that the same standards are applied to all candidates;
- Use criteria beyond GPA or grade in the class, such as evidence of interest in teaching, a teaching demonstration, and an in-person interview.

To prepare students for support roles:

- Provide mandatory training (possible formats include a 1-credit class or recurring seminar, a daylong retreat, offering portions of the training online);
- Discuss topics related to teaching computing and to creating a positive learning environment for all students;
- Create a community of students in support roles who can share advice, support, and mentor each other.

How effective is your program at selecting and training students serving in support roles such as teaching assistants, tutors, and peer mentors?



Program Curriculum & Supports

Which components in the focus area need to be explored more? (e.g. lack of data/information)

Which components appear to be strengths of the program?

Which components in the focus area have a great deal of consensus?

Which components in the focus area lack consensus?

Which components appear to be opportunities for improvement?

Where should we focus our efforts moving forward (knowing that we can't do all the things)?

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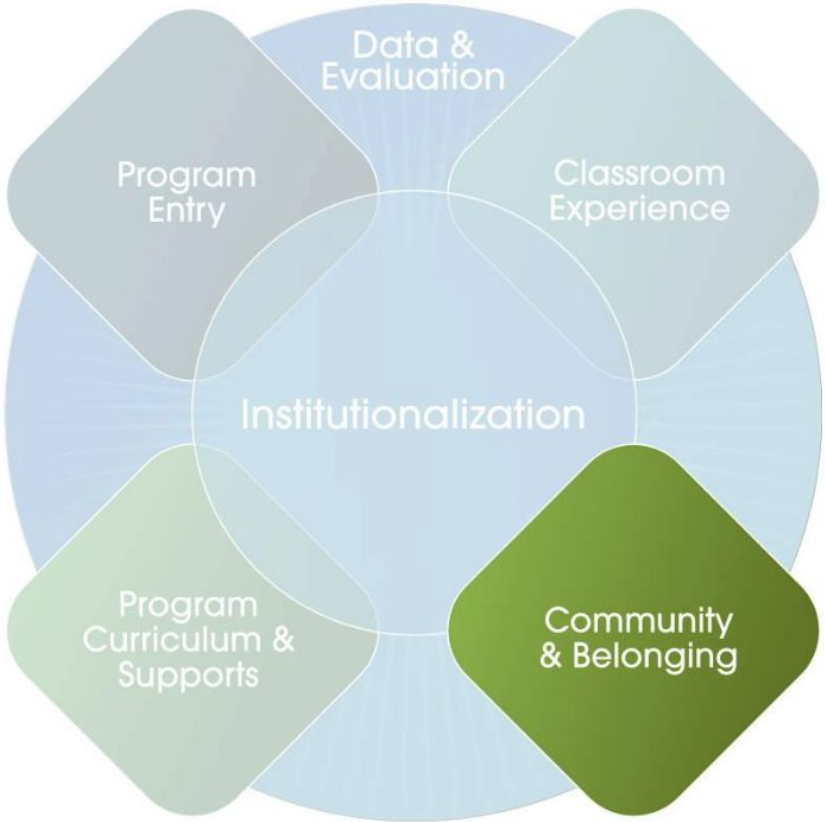
Mock Consensus Conversation



Community & Belonging

The goal of this focus area is to create a welcoming environment and offer experiences that promote students' sense of belonging in the program and in computing.

Community & Belonging

**Optional* Additional Context and/or Relevant Data Ideas

Forge (formerly known as HackCville)

More Information: We are a member supported, member run community of designers, programmers, makers, creatives, and the just plain curious. No matter your skill, we share, learn, and do, in support of one another's projects and the efforts of both UVA and Charlottesville organizations doing great work. We connect passionate people of all skill levels to foster creative projects. We provide resources and programming for our members to help them "hack" their projects, educations, or careers. Come here to find direction and get started.

Learn More

Girls Who Code

More information: Girls Who Code at the University of Virginia is an empowering and inclusive team of the next leaders in CS. Together, we're breaking down barriers in the tech industry due to resource inequality, race, and gender biases. All skill levels welcome. Come for the coding, stay for the community!

Learn More

Google Developer Group on Campus: UVA

Who? Undergrads
Meetings/Events: We host Tech Talks featuring expert speakers who share valuable insights with our members, Recruiter Events to help members network with industry professionals, and Technical Workshops where members can learn about the latest and greatest technologies!
Special Events: As part of Google's national Developer Group program, the GDG at UVA participates in Google's Solution Challenge. The mission of the Solution Challenge is to "solve for one or more of the United Nations' 17 Sustainable Development Goals using Google technology."

Learn More

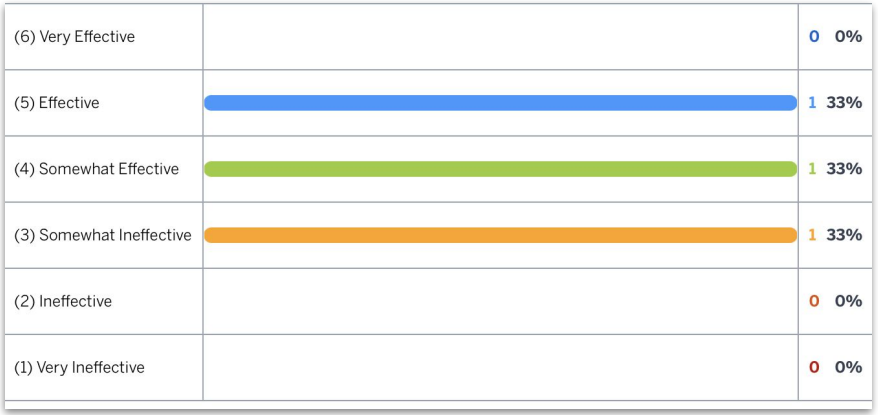
HooHacks

Who? Undergrads
Meetings/Events: Every Tuesday at 7:00 p.m.
Special Events: HooHacks' mission is to promote a culture of problem-solving, innovation, and community at UVA. We plan events such as the Ideathon (every October), Estimathon (November),

Create a Welcoming Community

Creating a positive, welcoming environment helps retain students in your program, and may be particularly important for students who are newer to computing (i.e., less pre-college experience). For example:

- Educate students and faculty about topics such as how small, daily interactions either support or discourage people from pursuing computing;
- Implement a code of conduct and allow students to help co-create shared agreements;
- Hold events to encourage informal interactions among students and between students and faculty (e.g., social hours, hackathons);
- Help students connect with each other, faculty, and industry representatives through mentoring and networking programs;
- Help new students get to know each other with learning communities, cohort programs, or a first-year course;
- Share and publicize student and faculty work (e.g., with posters, newsletters, the program's website, and awards).



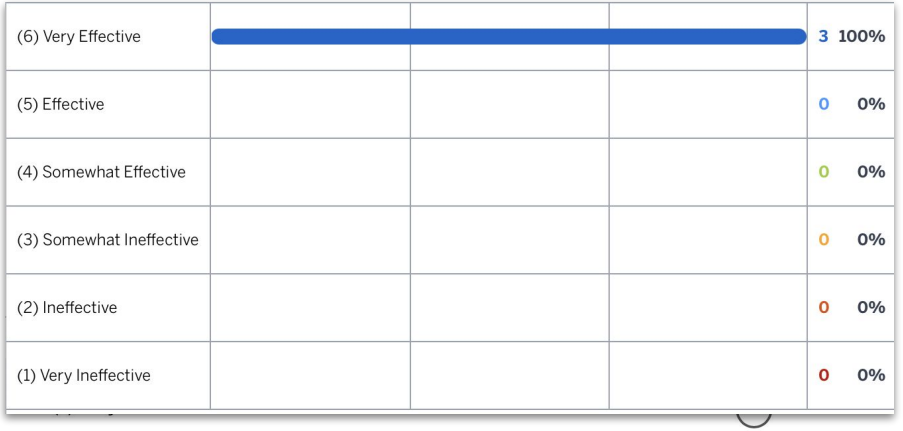
How effective is your program at creating a welcoming environment for all students?

Positive Connections Through Co-Curriculars

Opportunities such as research experiences, conference attendance, internships, and mentorship programs promote interaction with other students, faculty, and industry professionals, as well as provide valuable career preparation. To ensure that these experiences are inclusive and meaningful:

- Actively provide and promote open recruitment for these opportunities to all majors;
- Pay students for internships and research so that financial constraints don't limit who can participate;
- Ensure that expectations are clear and students have the opportunity to make meaningful contributions to the work;
- Promote collaboration, hold regular lab meetings, and encourage students to present research or co-author a paper;
- Support students' attendance at multiple types of professional conferences to increase their sense of belonging in the field;
- Take advantage of local conference experiences, which tend to be accessible and affordable;
- Connect with outside opportunities and funding sources for student experiences such as nonprofits and community organizations, corporations and corporate funding, grants, and/or programs.

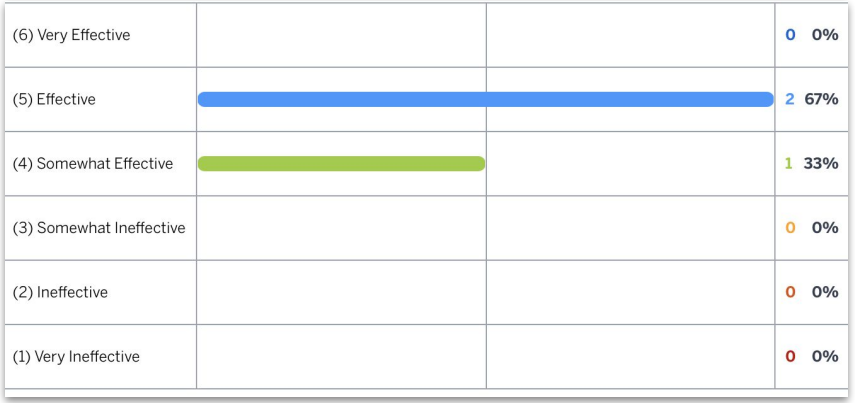
How effective is your program at ensuring that all students participate in meaningful research, internship, mentorship, and conference opportunities?



Student Leadership Positions

Examples of student leadership roles include serving as teaching assistants, tutors, peer mentors, and/or student ambassadors. Ensuring that students from a variety of backgrounds have access to and are well-represented in these roles not only provides valuable experiences for the student leaders themselves (e.g. confidence and professional skill-building) and a wide range of role models for other students.

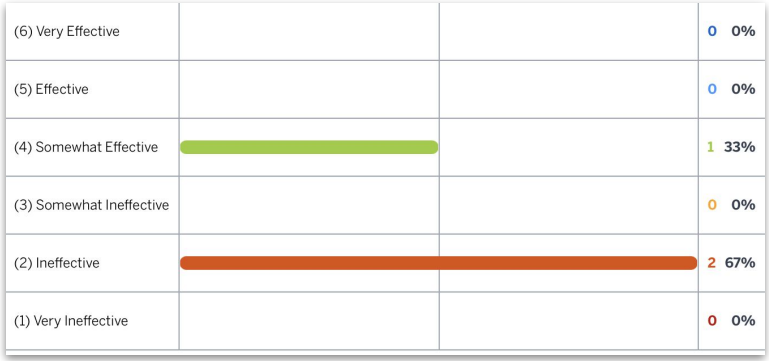
How effective is your program at intentionally creating and ensuring wide participation in student leadership roles?



Portrayals of Inclusion

Provide inclusive examples throughout your program (e.g., class materials, case studies, websites, promotional materials, invited speakers) of people who have been successful in the field of computing.

How effective is your program at ensuring inclusive examples of people who have been successful in the field of computing throughout your program?



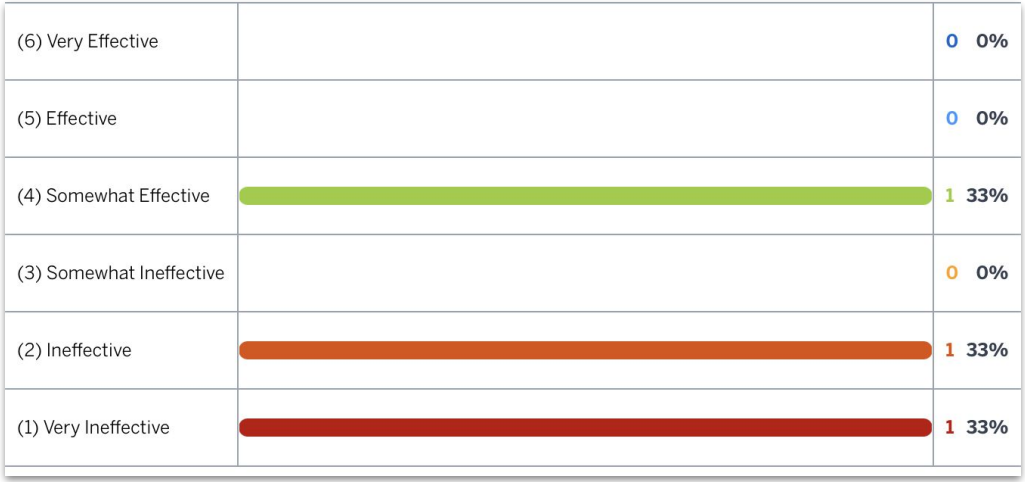
Welcoming Physical and Virtual Spaces

In physical spaces, neutral, widely appealing décor such as plants, art, and images of nature welcome a wider range of people than décor that evokes negative or narrow stereotypes of computing, such as overtly "geeky" images and objects. Spaces can be intentionally arranged to encourage interaction, facilitate collaboration, and accommodate students. A planned remodel or relocation is an excellent opportunity to rethink a program's physical space. Other options include seeking grant funding or corporate donations, teaming up with other departments to improve common spaces, or focusing on low-cost changes such as adding seating or decorating with student-contributed photographs or artwork.

Students increasingly interact in virtual spaces as well (e.g., on discussion boards; in chat during online class sessions; in Discord channels that may be topic- or class-specific, or department-wide). These platforms provide valuable opportunities for students to connect and may be especially beneficial for students who are seeking similar students or who may be reluctant to speak up in in-person settings.

Share clear guidelines for behavior, and make it easy for students to report infractions following your institution's rules and policies. Partner with TAs or student monitors to ensure the guidelines are followed and to promote a welcoming community.

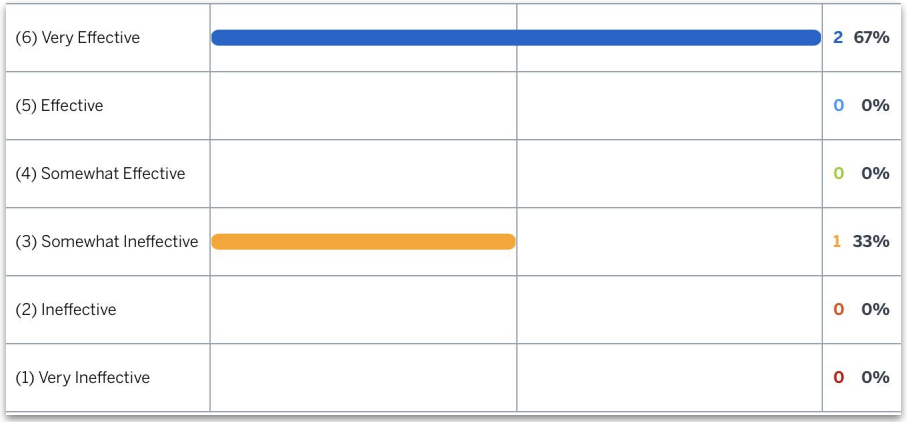
How effective is your program at ensuring that physical and virtual spaces are comfortable and welcoming for all students?



Student Groups

Student groups, clubs, and organizations (e.g., Women in Computing, Coders Across Disciplines, student chapters of professional organizations) can help reduce feelings of isolation and increase a sense of community and belonging for participating students. However, groups don't benefit students who either don't want to join or are unable to due to time or other constraints. Having faculty or staff advisors, a charter, a student executive board, registering as a student organization with the institution, and affiliating with a national organization such as the Association for Computing Machinery (ACM) will enhance a group's effectiveness and sustainability. Groups should be open to all student members, and more importantly, should be viewed as only one part of a larger, multipronged approach to cultivate community and belonging.

How effective is your program at supporting active and effective student groups, clubs, and organizations?



Community & Belonging

Which components in the focus area need to be explored more? (e.g. lack of data/information)

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Which components appear to be opportunities for improvement?

Where should we focus our efforts moving forward (knowing that we can't do all the things)?

Next Session - By Zoom