ATE SURVEY 2020

Updated February 17, 2020

This annual survey of the National Science Foundation's Advanced Technological Education (ATE) program grantees gathers information about the program's characteristics, activities, and achievements. The findings may be used by ATE grantees, grantseekers, and program officers to inform program and project planning and evaluation, and by STEM education researchers to investigate issues related to technician education. Some of the data collected from this survey will be shared in select ways to further ATE collaboration and research efforts.

There are twelve main sections to this survey: five are required for everyone, while the remaining seven sections are dependent on your project activities. You will be asked if your ATE project was involved in a particular activity and if you answer *yes*, you will be presented with a series of questions about that aspect of your work. Please read the descriptions of these questions carefully. If you are unsure, please reach out to Val Marshall for clarifications (contact information below). Not all activities may pertain to your project.

We encourage you to review the survey FAQs at http://www.evalu-ate.org/annual_survey/survey-info/ for details about data protection and uses.

The survey will be open from **February 18 through March 20, 2020**. We recommend that you review this printer-friendly version of the survey before responding to the online version so that you will have all the necessary information at hand to answer the questions. The survey is web-based; access information will be emailed to ATE principal investigators at the start of the survey period.

In order to incorporate the branching and other automated parts of the online survey, this PDF version will indicate branching logic in parentheses and other directions in brackets. In the online survey, some questions will auto-fill the information you provided to answer a previous question. In this PDF version, this is referred to as "piped text."

Additional information about the survey is available at http://www.evalu-ate.org/annual_survey/survey-info/. Questions should be directed to Val Marshall at (269) 387-5918 or valerie.marshall@wmich.edu.

Thank you for participating in this survey.

EvaluATE

Section 1: Grantee Characteristics and Practices

1.1. **What type of award is your ATE grant?**

- ○ Project
- ○ Small grant for institutions new to ATE
- ○ National center
- ○ Regional center
- ○ Support/resource center
- ○ Targeted research on technician education
- ○ Conference or meeting
- ○ Coordination network
- ○ Other type of award (describe) _____

Note: In the remainder of this survey, your ATE work will be referred to as a "project" regardless of the type of award you received.

1.2. **Was 2019 the first year of your current grant?**

- ○ Yes
- ○ No

1.3. (If yes to Q1.2) **Is your current grant a continuation of a previous ATE project?**

- ○ Yes
- ○ No

1.4. **Does your grant have any co-principal investigators (co-PIs)?**

- ○ Yes
- ○ No

1.5. (If yes to Q1.4) **Co-PI name(s) and email address(es):**

Co-PI _____

Email address _____

Co-PI _____

Email address _____

Co-PI _____

Email address _____

Co-PI _____

Email address _____

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1.6**.**   **Who is completing this survey?**

    ○ PI
    ○ Other (name and email address) _____

1.7.   **At what type of institution is the PI for this project located?**

    ○ 4-year college/university
    ○ 2-year college or 2-year college system
    ○ K-12 school or school system
    ○ Nonprofit organization
    ○ Other (describe) _____

    1.7.1.   (If 4-year college/university or 2-year college) **Is this institution designated as a minority-serving institution as defined in US law under Title III of the Higher Education Act of 1965?**

        ○ Yes
        ○ No
        ○ Not sure

        1.7.1.1. (If yes to Q1.7.1) **Which designations does your institution hold?** Select all that apply.

            ☐ Hispanic-serving institution
            ☐ Historically black college or university
            ☐ Predominately black institution
            ☐ Tribal college or university
            ☐ Asian American and Native American Pacific Islander-Serving Institution
            ☐ Alaska Native-serving institution
            ☐ Native Hawaiian-serving institution
            ☐ Other (describe) _____

1.8.   **Project website:** http:// _____

1.9.   **How many years does your grant cover?** _____

1.10.   **What is the total value of the grant?** $ _____

1.11. **Which of the following best represents the disciplinary focus of your ATE project?**

Advanced Manufacturing Technologies
○ Automotive manufacturing
○ General manufacturing
○ Additive manufacturing
○ Other Advanced Manufacturing Technologies (please specify)

Agricultural and Environmental Technologies
○ Agricultural and aquaculture
○ Energy technologies
○ Environmental technologies
○ Natural resources
○ Other Agricultural and Environmental Technologies (please specify)

Bio and Chemical Technologies
○ Biotechnology
○ Chemical and process technologies
○ Other Bio and Chemical Technologies (please specify)

Engineering Technologies
○ Optics
○ Electronics and controls
○ Mechatronics
○ Marine technologies
○ General engineering
○ Materials technologies
○ Space technologies
○ Other Engineering Technologies (please specify)

Information and Securities Technologies
○ Information and communication technologies
○ Geospatial technologies
○ Security, information assurance, and forensics
○ Logistics
○ Other Information and Securities Technologies (please specify)

Micro and Nanotechnologies
○ Micro and nanotechnologies

General or Interdisciplinary/Cross-Cutting Advanced Technological Education
○ Evaluation
○ Learning research
○ Teacher preparation
○ Recruitment and/or retention
○ Other General or Interdisciplinary/Cross-Cutting Advanced Technological Education (please specify)

Other (please specify)

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In order to better understand the composition of the ATE community, the next few questions ask about the demographic characteristics of ATE PIs.

1.12. **What is the PI's ethnic identity?**
   - ○ Hispanic or Latino/Latina
   - ○ Non-Hispanic, non-Latino/Latina

1.13. **What is the PI's racial identity?**
   - ○ American Indian or Alaska Native
   - ○ Asian
   - ○ Black or African American
   - ○ Multiracial
   - ○ Native Hawaiian or other Pacific Islander
   - ○ White
   - ○ Identity not listed _____

1.14. **What is the PI's gender identity?**
   - ○ Male
   - ○ Female
   - ○ Identity not listed

1.15. **What is the PI's age?**
   - ○ Under 25 years
   - ○ 25-34 years
   - ○ 35-44 years
   - ○ 45-54 years
   - ○ 55-64 years
   - ○ 65 years or older

Project Activities

To ensure that you are presented only with questions that are pertinent to your ATE project, you will be asked if your project was involved in a particular activity in 2019. **Please read the descriptions carefully.** If you answer *yes,* the online survey will display questions that ask about that aspect of your work. If you answer *no* or that you are *planning to in the future,* you will not see these questions in the online survey.

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Section 2: Program, Course, and Materials Development

Program Development

Program Development is the creation or substantial modification of a specific degree or certificate program for implementation at specific colleges or high schools.

Do not use this section of the survey to report on:
- Curricula developed only for use by other institutions
- Workshops to build capacity around program development or implementation

In 2019, did your ATE project create or substantially modify an academic degree or certificate program?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

2.1. **How many degree or certificate programs were created or modified by your ATE project in 2019?**

_____ [text box]

2.2.	**What is the name of the degree or certificate program?**	**Which type of credential is awarded by this program?**
	_____ [text box]*	[drop-down box with the following options] - Certificate - Associate degree - Bachelor's degree - Other

[*The number of rows will automate to match the respondent's answer to 2.1. For example, if 6 programs were reported in 2.1., then 6 rows will appear and you will be asked to respond to these questions for each of your 6 programs.]

2.2.1. (If program is a certificate in 2.2) **Which of the following best describes the main audience for this certificate [piped text from 2.2]?**
- ○ High school students
- ○ Dual-enrolled high school and college students
- ○ 2-year college students
- ○ 4-year college students
- ○ Incumbent workers
- ○ Other (describe) _____

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2.3.

How many students took at least one course in each certificate or degree program? Count each student only once.	
Program	Total number of students
[name of program, piped text from 2.2]*	_____
[name of program, piped text from 2.2]*	_____

[*The number of rows will automate to match the respondent's answer to 2.1. For example, if 6 was reported in 2.1, then 6 rows will appear.]

(Q2.4 and Q2.5 will repeat for each program listed in Q2.2.)

2.4. **How many students from each of the following demographic categories participated in [pipe text of degree name from Q2.2.] in 2019?**

	Men	Women	Other Gender Identities	Gender Unknown
a. American Indian or Alaska Native	_____	_____	_____	_____
b. Asian	_____	_____	_____	_____
c. Black or African American	_____	_____	_____	_____
d. Hispanic or Latino/Latina	_____	_____	_____	_____
e. Multiracial or Multiethnic	_____	_____	_____	_____
f. Native Hawaiian or other Pacific Islander	_____	_____	_____	_____
g. White	_____	_____	_____	_____
h. Racial or ethnic identity unknown	_____	_____	_____	_____

2.5. **How many students in [pipe text of degree name from Q2.2.] requested accommodations under the Americans with Disabilities Act in 2019?**

_____ [text box]

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2.6. **Did any students complete the following program(s) in 2019?**

	Yes	No
[name of program, piped text from Q2.2]*	O	O
[name of program, piped text from Q2.2]	O	O

[*The number of rows will automate to match the respondent's answer to Q2.1]

2.6.1. (If yes to Q2.9) **How many students completed each of the following program(s) in 2019?**

	Total number of students who completed program
[name of program, piped text from Q2.2]*	_____
[name of program, piped text from Q2.2]	_____

[*The number of rows will automate to match the respondent's answer to Q2.1.]

2.7. **How many students across all of these programs are veterans or first generation to attend college? If you have not collected this data for 2019, you do not need to respond to this question.**

	Total number of students
a. Veterans	_____
b. First generation to attend college	_____

2.8. **Does your project emphasize recruitment of students from any of the following categories?**

	Yes	No	Unsure
a. Women	O	O	O
b. Underrepresented racial or ethnic minorities	O	O	O
c. Veterans	O	O	O
d. First generation to attend college	O	O	O
e. Individuals from rural areas	O	O	O
f. Persons with disabilities	O	O	O
g. Dislocated workers (i.e., persons terminated as a result of workplace closure)	O	O	O

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Course Development

In 2019, did your ATE project create or substantially modify an academic course?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

2.9. **How many courses were created or modified by your ATE project in 2019?**

_____ [text box]

2.10.

What is the name of the course?	Which of the following best describes the main audience for this course?	Was this course offered in 2019?
_____ [text box]*	[drop-down box with the following options] - High school students - 2-year college students - 4-year college students - Other	○ Yes ○ No

[*The number of rows will automate to match the respondent's answer to Q2.10.]

2.11. (If yes to Q2.10.c, course was offered in 2019) **How many students completed this course in 2019?**
_____ [text box]
[*The number of rows will automate to match the respondent's answer to Q2.10.]

2.12. **What was the primary delivery mode for the course(s) in 2019?**

	Face-to-face	Fully online, instructor led	Fully online, self-paced	Hybrid
[name of course, piped text from Q2.11]*	○	○	○	○
[name of course, piped text from Q2.11]	○	○	○	○

[*The number of rows will automate to match the respondent's answer to Q2.9.]

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Articulation Agreements

Articulation agreements are formal agreements between education institutions that provide students with pathways and education access from secondary schools to two-year colleges and four-year colleges and universities.

In 2019, did your ATE project create new articulation agreements or maintain articulation agreements created previously through your project?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

2.13. **Report the number of articulation agreements, institutions, and students associated with each education level.**

	Education Level	
	High school to 2-year college	2-year college to 4-year college
a. Total number of articulation agreements <u>developed</u> in 2019	_____	_____
b. Total number of articulation agreements <u>in place</u> in 2019 (sequential and concurrent)	_____	_____
c. Number of <u>institutions</u> involved in all the agreements	_____	_____
d. Number of <u>students</u> who transferred in 2019 (enrolled at the higher education level under the terms of an articulation agreement)	_____	_____

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Educational Materials Development and Dissemination

Educational materials include print or digital media designed for instructional or assessment purposes, such as—but not limited to—course and program curricula, tests, lab experiments, instructional modules, and textbooks for use in technician education.

Do not use this section of the survey to report on:
- Materials created for promotion or marketing purposes
- Instructional materials primarily used for faculty professional development

In 2019, did your ATE project create or substantially modify educational materials?
- ○ Yes
- ○ No (skip to next question)
- ○ Planning to in the future (skip to next question)

In 2019, did your ATE project disseminate educational materials previously created (in 2018 or earlier) by your project?
- ○ Yes
- ○ No (skip this section)

(Answer Q2.14 – Q2.14.1 only if created educational materials in 2019.)

2.14. **How many of each of the following types of materials did you develop or modify in 2019?**

_____ Assessment activity or test

_____ Case study or problem set for problem-based learning

_____ Curriculum for a program

_____ Curriculum for a course

_____ Instructor guide/manual

_____ Interactive simulation

_____ Lab experiment

_____ Lesson plan

_____ Module or instructional unit

_____ Textbook

_____ Other _____

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2.14.1. How are you disseminating, or planning to disseminate, these materials? Select all that apply.
- ☐ Commercial publication
- ☐ Project webpage or website
- ☐ Conference presentation or booth
- ☐ Workshop
- ☐ ATE Central
- ☐ Clearinghouse or repository maintained by an external organization other than ATE Central (describe) _____
- ☐ Other (describe) _____

(Answer Q2.15 – Q2.15.1 only if disseminate educational materials created in previous years.)

2.15. **Which of the following types of materials previously created (in 2018 or earlier) by your project did you disseminate in 2019?**
- ☐ Assessment activity or test
- ☐ Case study or problem set for problem-based learning
- ☐ Curriculum for a program
- ☐ Curriculum for a course
- ☐ Instructor guide/manual
- ☐ Interactive simulation
- ☐ Lab experiment
- ☐ Lesson plan
- ☐ Module or instructional unit
- ☐ Textbook
- ☐ Other _____

2.15.1. How did you disseminate these materials?
- ☐ Commercial publication
- ☐ Project webpage or website
- ☐ Conference presentation or booth
- ☐ Workshop
- ☐ ATE Central
- ☐ Clearinghouse or repository maintained by an external organization other than ATE Central (describe) _____
- ☐ Other (describe) _____

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2.16.   (If reported *curriculum for programs or courses* in Q2.14 and/or 2.15) **Does your ATE project track the number of other institutions that are using the program and/or course curriculum created by your project?**
○ Yes
○ No

2.16.1. (If *yes* to Q2.16) **How many other institutions are using the program and/or course curriculum created by your project?**

_____ [text box]

Acquisition of Instruments, Equipment, and Tools

Instruments, equipment, and tools are physical items used in instruction in technical courses to help students learn processes, understand concepts, or how to perform tasks.

In 2019, did your ATE project acquire instrumentation, equipment, or tools for use in instruction?
○ Yes
○ No (skip this section)
○ Planning to in the future (skip this section)

2.17.   **How much did your project spend on instrumentation, equipment, or tools in 2019?**
$ _____

2.18.   **Which of the following best describes how your project uses this instrumentation, equipment, or tools?**
○ Gives students hands-on experience with the actual instruments, equipment, or tools that are used in industry
○ Allows students to perform technical tasks in a simulated context (such as through use of virtual reality or modified equipment)
○ Enables students with disabilities to perform certain technical tasks or have experiences that otherwise would be difficult for them
○ Other (describe) _____

2.19.   **How many courses, students, and educators used this instrumentation equipment, or instrumentation in 2019?**

Courses   _____

Students   _____

Educators   _____

2.20. **How did acquiring this equipment or instrumentation enhance student learning?**
_____ [text box]

Section 3: Direct Student Engagement

Business and Entrepreneurial Skills Development

Business and entrepreneurial skills development is helping students in a systematic way to develop their skills in areas such as—but not limited to—business development, marketing, networking, and understanding the global marketplace.

Do not use this section of the survey to report on:
- Activities with a primary focus other than business or entrepreneurial skills development (such as courses or workshops on other topics that might also have an indirect effect on these skills)
- Activities that did not involve working with students directly

In 2019, did your ATE project work with students specifically to develop their business and entrepreneurial skills?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

3.1. **In what ways did your project work with students to develop their business and entrepreneurial skills?** Select all that apply.
- ☐ Activity/course unit
- ☐ Club
- ☐ Entire course
- ☐ Incubator program
- ☐ Mentoring or coaching
- ☐ Online lesson or material
- ☐ Workshop
- ☐ Other (describe) _____

3.2. **How many students participated in business and entrepreneurial skills development provided by your project in 2019?**

Total students _____

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Workplace-Based Learning

Workplace-based learning includes any situation in which a student gains experience <u>at a work site</u>, such as internships, apprenticeships, job shadowing, and field trips to industry sites.

Do not use this section of the survey to report on:
- Activities that took place in a school setting

In 2019, did your ATE project offer workplace-based learning to students?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

3.3. **Which of the following workplace-based learning opportunities were offered by your project in 2019?** Select all that apply.
- ☐ Field trips to business/industry sites
- ☐ Job shadowing
- ☐ Apprenticeships
- ☐ Externships
- ☐ Internships
- ☐ Co-op learning
- ☐ Other (describe) _____

3.3.1. (Only if apprenticeships were selected in Q3.3) **Were any of your apprenticeships offered in 2019 registered with the U.S. Department of Labor or a state apprenticeship agency (i.e., a "registered apprenticeship")?**
- ○ Yes
- ○ No
- ○ Unsure

3.4. (Skip if only Field trips to business/industry sites to Q3.3 was selected) **About how much time did a student typically commit to each type of workplace-based learning offered by your project?**

Type of Workplace-Based Learning	How many <u>hours</u> per week did a student commit to this activity?	How many <u>weeks</u> per year did a student commit to this activity?
[piped text from choices in Q3.3]	_____ [text box]	_____ [text box]

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3.4.1. (Skip if only Field trips to business/industry sites to Q3.3 was selected) **Which of these characteristics apply to the workplace-based learning opportunities offered by your project?**

(If selected in Q3.3)	Students received payment	Students received academic credit	Coupled with specific course(s)	Student participation required by program
Job shadowing	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]
Apprenticeships	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]
Externships	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]
Internships	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]
Co-op learning	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]
Other	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]	[drop down, Yes or No]

3.5. **How many students participated in each type of workplace-based learning provided by your project in 2019?**

Field trips to business/industry sites   _____ students

Job shadowing   _____ students

Apprenticeships   _____ students

Externships   _____ students

Internships   _____ students

Co-op Learning   _____ students

Other types of workplace-based learning   _____ students

3.5.1. **What are the most valuable aspects of workplace-based learning for your students?**
_____ [text box]

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Student Mentoring

Student mentoring involves an experienced industry professional, educator, or advanced student providing guidance and advice to help a less experienced student develop the skills and knowledge they need to enhance their academic and professional growth.

Do not use this section of the survey to report on:
- Mentoring or coaching intended for educators or other professionals
- Mentoring provided to students on an informal or ad hoc basis

In 2019, did your ATE project offer formal mentoring or coaching to students?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

3.6. **Which of the following types of individuals provided mentoring or coaching through your ATE project (i.e., served as the mentors)?** Select all that apply.
- ☐ Business and industry professionals
- ☐ Educational faculty or staff
- ☐ Students/peers
- ☐ Other (describe) _____

3.7. **Are the mentors trained in mentoring by your project?**
- ○ Yes
- ○ No

3.8. **How many students received mentoring or coaching through your ATE project in 2019?**

_____ High school students

_____ 2-year college students

_____ 4-year college students

_____ Other (describe) _____

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Student Competitions

Student competitions are events at which students compete as individuals or teams using skills related to a STEM discipline or industry.

Do not use this section to report on:
- Student involvement in competitions not directly hosted or organized by your project

In 2019, did your ATE project <u>host or organize</u> a student competition?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

3.9.   **How many competitions were <u>hosted or organized</u> by your ATE project in 2019?**

_____ [text box]

3.10.   **How many students participated in the competitions hosted or organized by your ATE project in 2019?**

_____ [text box]

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Programs to Support Transition into College

Programs to support transition into college are systematic efforts to equip students with the skills they need to successfully navigate college. Examples include—but are not limited to—summer bridge programs, college readiness workshops or classes, first-year programs, support for non-traditional students, or other activities.

Do not use this section of the survey to report on:
- Support provided to transitioning students on an ad hoc or informal basis
- Indirect support (such as guidance for faculty or staff on how to support transitioning students)

In 2019, did your project offer formal programs to help students transition into college?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

3.11. **How many transition programs were supported by your ATE project in 2019?**

_____ [text box]

3.12. **List the transition programs supported by your ATE project in 2019.**

What is the name of the program?	Who is the primary audience?	How many students participated?
_____ [text box]*	[drop-down box with the following options] - High school students - Recent high school graduates (e.g., summer programs) - First-year college students - Non-traditional students - Other	_____ [text box]

[*The number of rows will automate to match the respondent's answer to Q3.12.]

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Activities to Help Students Obtain Industry-Recognized Certifications or Licensing

Industry-recognized certifications or licenses serve as evidence that a person has specific skills or knowledge. Certifications are typically awarded by non-governmental agencies; licenses are regulated by the government.

Do not use this section to report on
- Academic certificates or badges award by a college
- General academic preparation to work in industry

In 2019, did your ATE project work with students to support them in obtaining specific industry-recognized certifications or licenses?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

3.13. **In which of the following ways does your ATE project support students in obtaining these certifications or licenses?** Select all that apply.
- ☐ Provide financial assistance for testing fees
- ☐ Serve as a testing center
- ☐ Provide specific test preparation workshops or learning modules
- ☐ Review students' certification or license applications
- ☐ Existing courses aligned with license or certification requirements
- ☐ Other (describe) _____

3.14. **What type of organization(s) awards the licenses or certifications that your project helps students obtain?** Select all that apply.
- ☐ Government agency
- ☐ Non-governmental organization (e.g., professional society, industry group)
- ☐ For-profit corporation or company
- ☐ Other (describe) _____

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Section 4: Professional Development for Educators or Future Educators

Professional development for educators involves are systematic efforts to work with secondary school teachers, college faculty, or preservice teachers to enhance their disciplinary capabilities, teaching skills, or understanding of current technologies and practices in ways that will directly impact technician education.

Do not use this section of the survey to report on:
- Professional development specifically intended for ATE program grantseekers or grantees (that is addressed elsewhere in this survey)
- Conference presentations or other outreach activities

In 2019, did your ATE project provide training or professional development to current or future educators?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

4.1. **How many professional development activities of each length listed below were offered by your project in 2019?**

Type of Professional Development Activity	Total Number of Activities Offered
a. Instructional activities of one day or less (e.g., webinar, one-day workshop)	_____
b. Instructional activities that lasted more than one day but less than one week (e.g., workshop, online module)	_____
c. Instructional activities that lasted from one to several weeks (e.g., course, summer institute)	_____
d. Long-term periodic instructional activities (e.g., internship, peer coaching)	_____

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4.2. **How many individuals were served by these professional development activities in 2019?**

Length of Professional Development Activity	Number of Participants				
	Preservice Teachers	High School Teachers	2-Year College Faculty	4-Year College Faculty	Other or Unknown
(only items indicated in Q4.1 will appear)					
a. Instructional activities of one day or less	_____	_____	_____	_____	_____
b. Instructional activities that lasted more than one day, but less than one week	_____	_____	_____	_____	_____
c. Instructional activities that lasted from one to several weeks	_____	_____	_____	_____	_____
d. Long-term periodic instructional activities	_____	_____	_____	_____	_____

4.3. **Which of the following topics are covered by your professional development?** Select all that apply.
- ☐ Pedagogy
- ☐ Discipline- or industry-specific knowledge or skills
- ☐ Recruitment or retention of students
- ☐ Training on specific equipment
- ☐ Other professional skills (e.g., leadership, communication) (describe) [text box]

4.4. **Does your project collect data about the number of <u>students</u> taught by the educators who participated in professional development provided by your project?**
- ○ Yes
- ○ No

4.4.1.
(If yes to Q4.4)   **How many students were taught by the educators who participated in the professional development offered by your ATE project in 2019?**

_____ students

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Section 5: Conferences or Meetings

ATE-related *conferences or meetings* are events held for the purpose of professional exchange about issues related to advanced technological education.

Do not use this section of the survey to report on:
- Attendance or presentations at conferences
- Events held primarily for training purposes
- Typical management or advisory meetings that most projects hold as part of their normal operations (e.g., advisory committee meetings, partner meetings)

In 2019, did your ATE project <u>organize</u> a conference, meeting, or similar type of event for the purpose of professional exchange?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

5.1. **Was hosting a conference the main purpose of your project (i.e., project was funded with a "conference" grant)?**
- ○ Yes
- ○ No

5.2. **How many conferences, meetings, or other events did your project <u>organize</u> in 2019?**

_____ [text box]

5.3. **What was the name of each conference, meeting, or other event your project organized in 2019?**

_____ [Number of text boxes determined by Q5.2.]

5.4. **How many people attended each event?**

Event Name	Number of Attendees
[piped text from 5.3]*	_____ [text box]
[piped text from 5.3]	_____ [text box]

[*The number of rows will automate to match the respondent's answer to Q5.3]

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Section 6: Research and Publications

Targeted Research

Targeted research is research intended to build the knowledge base about the education and development of the skilled technical workforce in STEM fields.

Do not use this section of the survey to report on:
- Your project's evaluation, which may utilize research methods
- General background research to inform your project's implementation

In 2019, did your ATE project conduct targeted research?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

6.1.   **Which of the following best describes the <u>current</u> stage of your research?**
- ○ Planning phase
- ○ Collecting data
- ○ Analyzing data
- ○ Writing up results
- ○ Findings published or submitted for publication

6.2.   **Briefly describe your primary research questions (i.e., overarching questions that guide your research study, not specific data collection questions).** (max 1,000 characters)
_____   [text box]

6.3.   **Who is the target population of your research (i.e., what population does your sample represent)?** (max 600 characters)
_____   [text box]

6.4.   **Which of the following research designs are being used in your research?**
- ☐ Descriptive (e.g., case study, naturalistic observation, survey)
- ☐ Correlational (e.g., case-control study, longitudinal analysis)
- ☐ Experimental or quasi-experimental
- ☐ Review (e.g., literature review or systematic review)
- ☐ Meta-analytic (e.g., meta-analysis)
- ☐ Other (describe) _____

6.5.   (If *writing up results* or *findings published* or *submitted for publication* in Q6.1.) **Briefly summarize the main results from your research.**
_____ [text box]

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6.6.   **How are you disseminating, or planning on disseminating, the results of your research? Select all that apply.**
☐ Article in academic journal
☐ Article in practitioner journal
☐ Article in a magazine
☐ Report available for free online (e.g., white paper or working paper)
☐ Conference presentation
☐ Blog or newsletter
☐ Other (describe) _____

Publications

Publications include articles, reports, white papers, or other documents of publishable quality or manuscripts intended for publication.

Do not use this section of the survey to report on:
- Annual reports prepared for NSF
- Evaluation reports
- Conference presentations, roundtables, or posters

In 2019, did your ATE project develop articles, reports, or white papers intended for publication?
○ Yes
○ No (skip this section)
○ Planning to in the future (skip this section)

6.7.   **How many of each type of publication did your project develop in 2019?**

		Total Number of Publications Developed
a.	Manuscript for publication in academic journal	_____
b.	Manuscript for publication in practitioner journal	_____
c.	Report (*not* including evaluation reports or annual reports prepared for NSF)	_____
d.	Magazine article	_____
e.	Other (describe) _____	_____

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Section 7: Coordination Network

A *coordination network* is a specific strategy for sharing information and ideas, fostering synthesis and new collaborations, developing common standards or industry-validated certifications, or otherwise advancing science and technician education through regular communication and sharing of ideas.

Do not use this section of the survey to report on:
- Activities focused on communication among project partners
- Informal or ad hoc interactions with colleagues

In 2019, did your ATE project coordinate a network to facilitate exchange or cooperation around research, training, or educational activities?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

7.1.   **Was organizing a coordination network the primary purpose of your grant?**
- ○ Yes
- ○ No

7.2.   **Briefly summarize the purpose of your coordination network.** (max 600 characters)

_____ [text box]

7.3.   **Briefly summarize the target audiences involved in your coordination network.** (max 600 characters)

_____ [text box]

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Section 8: ATE Program Services and Support

ATE program services involves the provision of activities, materials, or services intended to enhance the capacity of ATE program grantseekers, grantees, and other participants and stakeholders to plan and conduct successful ATE projects.

Do not use this section of the survey to report on:
- Discipline-specific activities that could be of interest to the ATE community
- Research that could be of interest to the ATE community
- Any other activities not specifically developed for ATE grantseekers and grantees

In 2019, did your ATE project provide services specifically for the ATE community?
- ○ Yes
- ○ No (skip this section)
- ○ Planning to in the future (skip this section)

8.1. **In what ways did your project support the ATE community?** Select all that apply.
- ☐ Resource materials (e.g., guides, tutorials, videos)
- ☐ In-person workshops
- ☐ Webinars
- ☐ One-on-one technical assistance or advice
- ☐ Technical service (e.g., website hosting, webinar delivery, archiving)
- ☐ Other (describe) _____

8.2. (If chose *in-person workshops* in Q8.1.) **How many in-person workshops did your project provide in 2019?**

_____ [text box]

8.3. (If chose *in-person workshops* in Q8.1.) **On average, how many people attended per workshop?**

_____ [text box]

8.4. (If chose *webinars* in Q8.1.) **How many webinars did your project provide in 2019?**

_____ [text box]

8.5. (If chose *webinars* in Q8.1.) **On average, how many people attended per webinar?**

_____ [text box]

8.6. (If chose *one-on-one technical assistance or advice* in Q8.1.) **How many people received one-on-one technical assistance or advice from your project in 2019?**
_____ [text box]

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Section 9: Collaboration

Collaboration is a relationship with another institution, business, or group that provides monetary or other support (e.g., volunteer instruction, donated materials) to your project. Collaborators are not funded by the grant.

9.1. **For each type of collaborating organization listed below, report the number of different organizations you collaborated with in 2019.**

_____ Business/industry

_____ Within your host institution (*not for grant management purposes*)

_____ 2- or 4-year colleges

_____ K-12 schools or school system

_____ Public agencies (e.g., government agencies)

_____ Other ATE projects

_____ Other (describe) _____

9.2. **What is the most important benefit your project derived from collaboration with all groups or organizations?**

_____ [text box]

9.3. **Did your ATE project engage with individuals or groups from business and industry in any of the following ways in 2019?** (only if indicated collaborated with business/industry in Q9.1)

	Yes	No	Planning to in the Future	Role of Business or Industry Person/Group
a.	O	O	O	Serve on an advisory board
b.	O	O	O	Review or advise on curriculum
c.	O	O	O	Provide educators with occupational experience and training (e.g., externships, mentoring, equipment access, demonstrations)
d.	O	O	O	Support business incubation or entrepreneurship
e.	O	O	O	Assist with instruction (e.g., guest lectures, classroom teaching, serve as panelists or judges, conduct site tours)

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	Yes	No	Planning to in the Future	Role of Business or Industry Person/Group
f.	O	O	O	Provide monetary or in-kind support for program sustainability or enhancement (e.g., financial support, equipment donation, marketing assistance)
g.	O	O	O	Sponsor research
h.	O	O	O	Provide opportunities for workplace-based learning (e.g., internships, apprenticeships, co-op learning)
i.	O	O	O	Identify workforce needs

9.4. **What is the total dollar value of monetary and in-kind support received by your project from all sources <u>other</u> than your ATE award in 2019? (round to the nearest thousand dollars)**

a. Monetary support $ _____

b. In-kind support $ _____

    9.4.1. (If entered non-zero-dollar amount in Q9.4b.) **Which of the following in-kind support did your project receive in 2019?** Select all that apply.
       ☐ Staff time
       ☐ Equipment
       ☐ Other (describe) _____

Advisory Boards

(Complete only if responded yes to Q9.3.a)

9.5. **How many hours did your advisory board meet in 2019?**
    O 1 hour or less
    O 2–5 hours
    O 6–16 hours (1–2 days)
    O 17–36 hours (3–4 days)
    O 37 hours or more

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Section 10: Evaluation

10.1. **Did your project have an evaluator in 2019?**
- ○ Yes
- ○ No (skip this section)

10.2. **Which type of evaluator(s) did your project have in 2019?**
- ○ External evaluator only
- ○ Internal evaluator only (i.e., a member of your staff)
- ○ Both internal and external evaluators

10.3. (Only if *external* evaluator selected in Q10.2) **How frequently did your external evaluator interact with your project's staff (e.g., by email, teleconference, face-to-face) in 2019?**
- ○ Rarely (annually or semiannually)
- ○ Infrequently (not every month but at least quarterly)
- ○ Occasionally (more often than quarterly and as much as monthly)
- ○ Often (more often than monthly and as much as biweekly)
- ○ Continually (nearly weekly, weekly, or more often)

10.4. **What type of report did you receive from your evaluator in 2019?**
- ○ Written
- ○ Oral
- ○ Both oral and written
- ○ None (skip to question 10.9)

10.5. **If you have any information related to the evaluation of your project online (e.g., plans, instruments, reports), please provide the URL where they can be located:**
http:// _____
- ○ Evaluation reports are not available online but would be willing to share

10.6. **Has your project's evaluation caused you to make changes to any of the following aspects of your project's implementation?** Select all that apply.
- ☐ Marketing, recruitment, or outreach (aimed at students, faculty, or industry)
- ☐ Content of curriculum or training materials
- ☐ Timing of project activities
- ☐ Dissemination of project information
- ☐ Elimination or addition of project activities
- ☐ Industry engagement
- ☐ Other (describe) _____

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10.7. **Has your project's evaluation caused you to make any of the following types of changes regarding the project's goals/objectives or target audience?** Select all that apply.

☐ Modified target audience
☐ Added one or more new project goals or objectives
☐ Eliminated one or more project goals or objectives
☐ Modified existing project goals or objectives
☐ Other (describe) _____

10.8. **With whom have you shared your current project's evaluation results?**
(If a group does not apply to your project, select "NA" for *not applicable.*)

	Yes	No	Unsure	NA
NSF program officer	O	O	O	O
Project advisory committee	O	O	O	O
Executive administrators in your organization (e.g., CEO, president, vice president, dean, department chairperson)	O	O	O	O
Faculty or staff at your project's host institution	O	O	O	O
Current project partners	O	O	O	O
Prospective project partners	O	O	O	O
Prospective students or parents	O	O	O	O
Educators or professionals outside of your project and institution (e.g., at conferences, in journals, or during webinars)	O	O	O	O
Other (describe)	O	O	O	O

10.9. **What is your evaluator's name and organizational affiliation (e.g., Jane Smith, Western Michigan University)?**

_____ [text box]

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10.10.   **What is your evaluator's email address?**

_____ [text box]

10.11.   EvaluATE is working with ATE Central to make information about ATE evaluators available on the ATE Central website (www.atecentral.net). ***If the evaluator you named above approves,* may we identify them as your evaluator on the ATE Central website?**
   ○ Yes
   ○ No

10.12.   **How familiar are you with the Program Evaluation Standards by the Joint Committee on Standards for Educational Evaluation?**

   ○   Not at all familiar
   ○   Slightly familiar
   ○   Somewhat familiar
   ○   Moderately familiar
   ○   Extremely familiar

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Section 11: Special Topics

(Completed by all)

This section of the annual ATE survey addresses emerging topics of interest to the ATE community. All respondents are asked to complete this section. These questions will be asked in the 2020 survey only.

Are you personally involved in developing or delivering an academic program at a two-year institution?

○ Yes
○ No (skip to next section)

The Future of Work

Your answers to the next four questions will augment the data being gathered by the Preparing Technicians for the Future of Work project at convenings across the country. This information will help determine which interventions, products, and services will be most useful to the ATE community.

11.1. **From your perspective, what new technical skills will be needed by technicians entering the workforce in the next one to two years?** List up to three skills that you think are the most needed.

_____ [text box; max 70 characters]

_____ [text box; max 70 characters]

_____ [text box; max 70 characters]

11.2 **What new technical topics will be added to *existing* courses related to your ATE project in the coming year?** List up to three topics that represent the biggest curricular changes for your program.

_____ [text box; max 70 characters]

_____ [text box; max 70 characters]

_____ [text box; max 70 characters]

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11.3 **Which of the following do you think are the *three biggest challenges* your college faces in terms of addressing future skill needs of technicians?** [limit selection to three]
☐ knowing what those skills are
☐ engaging employers to identify and forecast necessary skills
☐ having faculty who have the capacity to teach those skills
☐ having up-to-date equipment or facilities
☐ managing credit limits when adding additional content
☐ determining what topics to remove from the curriculum
☐ other _____

11.4 **What types of activities, resources, or opportunities for collaboration would be most effective for addressing future of work needs in your geographic region?** (max 600 characters)
_____ [text box]

Technical Program Math Requirements

The next few questions are being asked by the Needed Math project. The results will inform the development of a more detailed survey of industrialists, technical faculty, and mathematics policymakers regarding the mathematics that students in technical programs need to succeed in the STEM occupations for which they are preparing.

11.5 **Please answer the next 12 questions for the technical program at your college with which you are most familiar. What is the name of this program?**
_____ [text box]

11.6 **Is this a certificate or degree program?** (If more than one type of credential is offered, select the higher level.)
○ Certificate
○ Degree

11.7 **What sources of information does your college use to determine the mathematical attainment of entering students?** Select all that apply.
☐ A national assessment (e.g., Accuplacer, SAT, ACT)
☐ Assessment developed by our college
☐ Academic transcripts
☐ Other (describe) _____

11.8 **In your opinion, how does the mathematics placement process affect student participation in this technical program?**
_____ [text box]

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11.9 **What is the first college *credit-bearing mathematics course* required for students in this program?**
- ○ College Algebra
- ○ Technical Mathematics
- ○ Statistics
- ○ Quantitative Reasoning
- ○ Other (describe) _____
- ○ None

11.10 **Which course(s) best represent the *mathematics used* by students in the technical courses required for this program?** Select all that apply.
- ☐ College Algebra
- ☐ Technical Mathematics
- ☐ Statistics
- ☐ Quantitative Reasoning
- ☐ Other (describe) _____

11.11 **Is the mathematics used in this program taught primarily in stand-alone mathematics courses or primarily embedded in technical courses?**
- ○ Primarily in stand-alone mathematics courses
- ○ Primarily in technical courses
- ○ It is taught both in mathematics courses and technical courses
- ○ Not sure

11.12 **In the last four years, has your college made changes to how students meet the math requirement in your technical program(s)?**
- ○ Yes
- ○ No
- ○ Not sure

11.12.1. [If yes to Q11.12] **Briefly describe the nature of the changes made to the requirements**

_____ [text box]

11.12.2. [If yes to Q11.12] **What, if any, impact does this change seem to have had on student retention in the program(s)?**
- ○ Substantial increase
- ○ Slight increase
- ○ No change
- ○ Slight decrease
- ○ Substantial decrease
- ○ Not sure

11.13 **Which of the following sources has the most influence on setting math requirements for your technical program(s)?**
- ○ Local employers
- ○ Guidelines, standards, or recommendations published by a national organization (describe) _____
- ○ Accrediting agencies
- ○ Program faculty
- ○ Other _____

11.14 **Are you willing to have someone from the Needed Math project contact you for the following purposes?**

	Yes	No
Provide contact information for individuals involved in establishing mathematics requirements for technical programs (e.g., faculty, industry representatives)	○	○
Provide additional information about changes in mathematics requirements that increased student enrollment, retention and placement	○	○

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The next few questions are being asked by InnovATE*BIO*, the ATE National Biotechnology Education Center. The results will inform the development of strategic approaches for engaging with secondary schools to support recruitment and outreach efforts at community colleges.

11.15 **Is your academic program involved in any of the following types of activities focused on secondary school audiences (students, teachers, parents, and/or school administrators)?**

	Yes	No	Planning to in the Future
Establishing articulation agreements or facilitation of high school students' use of them	O	O	O
Offering dual-enrollment courses	O	O	O
Engaging in outreach or recruitment at community events such as career fairs, PTA meetings, family nights	O	O	O
Providing professional development for secondary school teachers	O	O	O
Providing educational materials or supplies for secondary school teachers	O	O	O
Providing in-class teaching, career talks, and/or assistance in secondary school classrooms	O	O	O
Providing input on secondary school curriculum development	O	O	O
Hosting secondary school students for summer camps, workshops, etc.	O	O	O
Other (describe) _____	O	O	O

11.16 **Have any of these activities resulted in increased enrollment in your academic program(s)?**

	Yes	No	Don't Know
[type of activity, piped text from Q11.15]*	O	O	O
[type of activity, piped text from Q11.15]*	O	O	O
[*The number of rows will automate to match the respondent's answers to Q11.15.			

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11.17 **What is the source of funding for the secondary school activities in which your academic program is involved?** Select all that apply.

☐ State or federal grant
☐ Philanthropic foundation grant
☐ College-level support
☐ Community partner
☐ Secondary school district
☐ Other (describe) _____

11.18 **Has your ATE project led to the creation of any new dual-enrollment courses?**
(including concurrent enrollment, dual-credit, and any similar courses)

○ Yes
○ No

11.18.1 [if yes to Q11.18] **Who teaches the dual-enrollment course(s)?**

○ Full-time college faculty
○ Full-time secondary school faculty
○ Industry professional adjunct faculty
○ Other (describe) _____

11.18.2 [if yes to Q11.18] **Where are the dual-enrollment course(s) taught?**

○ High school site
○ College site
○ Other (describe) _____

11.18.3 [if yes to Q11.18] **What are the minimum educational qualifications for dual-enrollment course instructors?**

○ Bachelor's degree
○ Master's degree
○ Doctoral degree
○ Don't know

11.18.4 [if yes to Q11.18**] Are dual-enrollment instructors also required to have a secondary school teaching credential?**

○ Yes
○ No
○ Don't know

11.18.5 [if yes to Q11.18] **What additional experience is required of a dual credit instructor?** Select all that apply.

☐ Secondary school teaching experience
☐ Industry work experience
☐ Experience working with youth populations
☐ Other (describe) _____

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11.19   What challenges have you encountered in starting up or implementing secondary school programs?

_____ [text box]

11.20   Are you willing to have someone from InnovATE*BIO* contact you to learn more about your secondary school programming?
   ○   Yes
   ○   No

Section 12: Project Highlights

(Completed by all)

12.1.   What was your project's most important achievement in 2019?

_____[text box]

12.1.1. Did you gather data about this achievement?
   ○   Yes
   ○   No

12.1.1.1.   [if yes to Q12.1.1] What kind of data and how was it collected?

_____ [text box]

12.2.   What are one or two promising practices from your ATE work that can be shared with the ATE community?

_____ [text box]

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