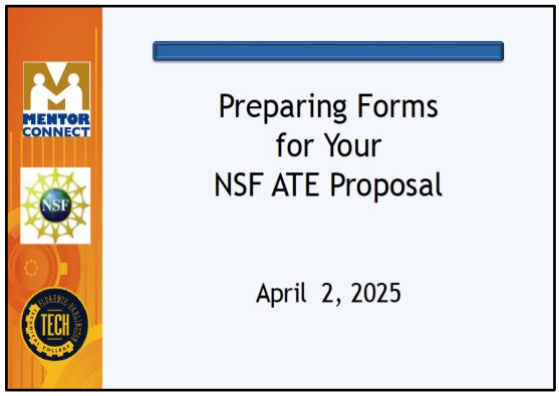
Mentor-Connect - Quick Reference Guide

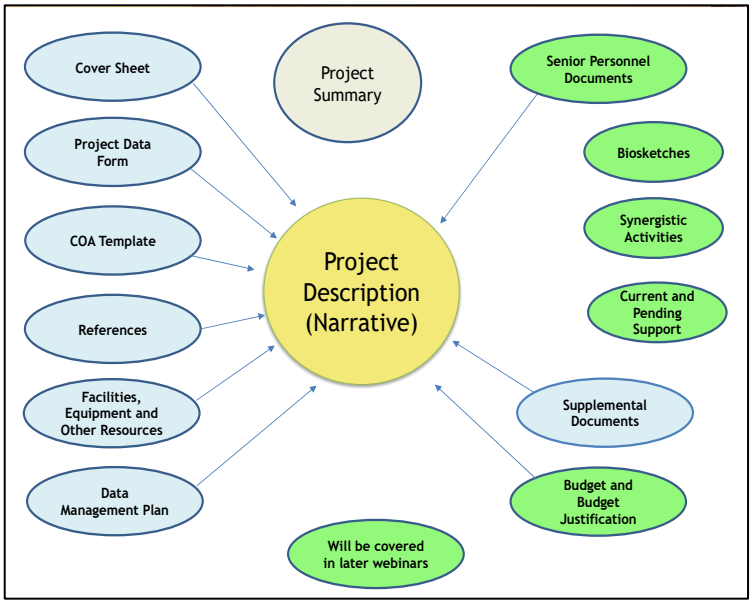
Preparing Forms for Your ATE Proposal: Part 1



This reference guide will assist you with an important process – correctly preparing and submitting the forms that will be part of your grant proposal to the National Science Foundation's Advanced Technological Education (ATE) Program.

It is based on an April 2025 webinar, which is available as a recording in the Mentor-Connect.org resource library. Webinar presenters were Mentor-Connect PI Pamela Silvers, Co-PI Emery DeWitt, Senior Personnel Louis McIntyre, and Mentor Matthew Swenson.

The webinar provided an overview of the Project Description and specific instructions for the Project Summary and the forms shown here in blue. Forms shown in green will be covered in two other webinars on April 30 and May 21, 2025. Separate reference guides will be available in the Mentor-Connect resource library for each webinar.



It is easy to underestimate how long it will take to complete the forms. They can exceed 60 pages! Begin work on them early to ensure that they are ready and error-free before the due date. Certain errors can result in your proposal being returned without review. Others can signal carelessness and give reviewers a negative impression of your proposal.

Before you begin working on the forms:

1. **Become familiar with two critical resources**.
   - ATE Program Solicitation – NSF 24-584 https://www.nsf.gov/funding/opportunities/ate-advanced-technological-education/nsf24-584/solicitation
   - Proposal and Award Policies and Procedures Guide (PAPPG) - NSF 24-1, Section II, Proposal Preparation Instructions https://new.nsf.gov/policies/pappg/24-1

Study the proposal preparation guidelines in both documents very carefully. Make sure that you use the current versions, since older versions remain online. The ATE Program Solicitation has typically been updated every three years, but the timing can vary, and the current solicitation has no specific end date. The PAPPG is updated regularly. The current versions of both documents were published in 2024. They can be accessed from the search engine on the NSF website (www.nsf.gov) with the search terms 24-584 for the ATE Solicitation and NSF 24-1 for the PAPPG.

Note that the next version of the PAPPG (26-1) is scheduled to be released later this year. If you sign up online to receive publications from NSF, you will be notified when it and other new NSF documents are published. We will let all Mentor-Connect participants know when the PAPPG is updated and if any of the changes will affect your October 2025 submission.

Section II of the PAPPG covers what you need to know to submit a proposal to any division of the National Science Foundation, including allowable font sizes, margins, and specific requirements for the various proposal components. The ATE solicitation provides critical information for meeting all requirements that are specific to the ATE program. Print the solicitation and have it on hand as you work on the proposal. If information differs between the PAPPG and the Solicitation, follow guidelines in the Solicitation. Be sure that your PI, Co-PI(s), grants professional, and Authorized Organizational Representative (AOR) understand this hierarchy, and that they know how to access both key documents.

2. Identify your Authorized Organizational Representative (AOR).

The AOR is your college's representative to NSF for authorizing and submitting NSF proposals on behalf of the institution. You will see more about the AOR's role below.

3. Register in Research.gov.

This is a task for your AOR, who will register your institution, along with the project PI, Co-PI(s), other senior personnel, appropriate Business Office personnel, and anyone else who may require access to the proposal or other functions, such as requesting grant funds, that are related to the proposal. Once registered and granted specific permissions, individuals can log in with temporary passwords set by the AOR, then set their personal passwords. If the college and any of the relevant individuals have previously been registered in Fastlane (NSF's previous grants management platform), those registrations should have automatically transferred to Research.gov.

4. Understand how proposal information is entered and stored.

All forms can be uploaded and "parked" in Research.gov for later completion or revision. Content can be uploaded, replaced, or edited continuously prior to submission. Nothing is final until the AOR hits "submit" to transmit the proposal to NSF.

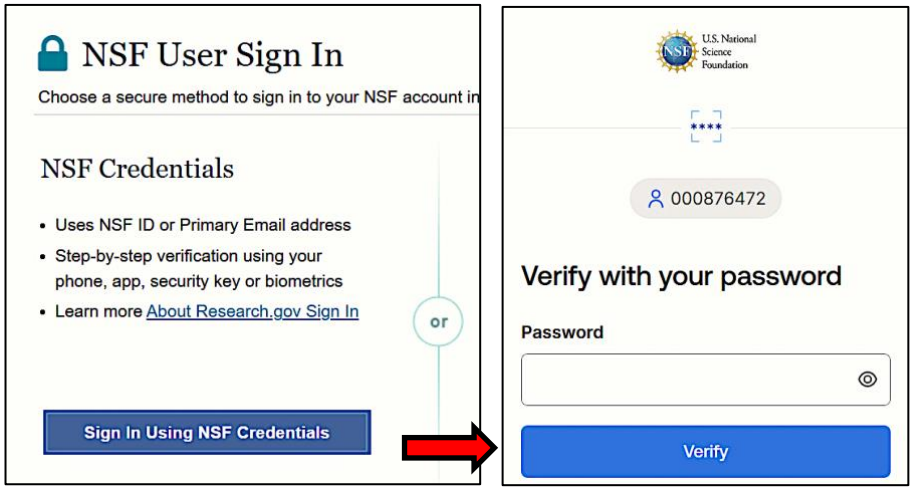
Features of Research.gov

Some college grant professionals are accustomed to submitting grants to federal agencies through Grants.gov. However, for ATE grants you will need to use Research.gov because this is where you will find all the required forms. Also, any proposal submitted through Grants.gov will be transmitted to NSF rather than received directly by NSF. Transmission delays could result in a missed deadline. Additional advantages of Research.gov include a fast and easy-to-use wizard, immediate compliance feedback when you upload documents, stable uploads of PDFs, and on-screen links to relevant sections of the PAPPG.

Steps for proposal preparation and submission

Log in. Open Research.gov and sign in with your login and password in the upper right corner.

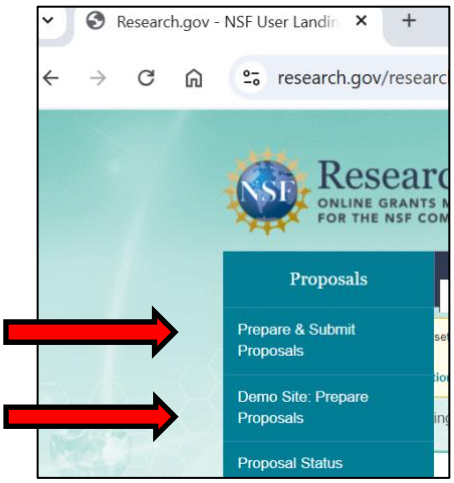
Note that you must use multiple factor authentication (MFA) when you log in.

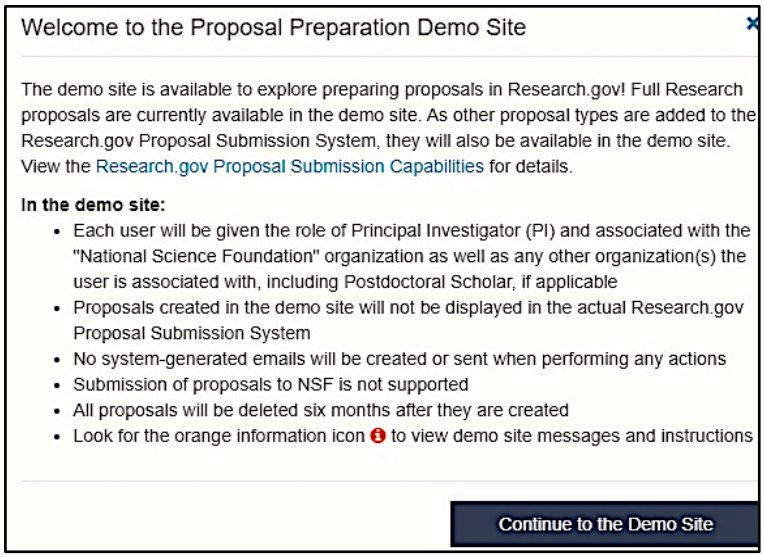


Under the sign-in tab you will find a link to create an account if you have not already done so. When logging in for the first time you may see a pop-up that asks if you want to continue to the proposal system. Click and this pop-up will go away.

Access Proposal Submission. After logging in, you will come to a screen that looks like this. Select *Prepare and Submit Proposals* to begin using the system.

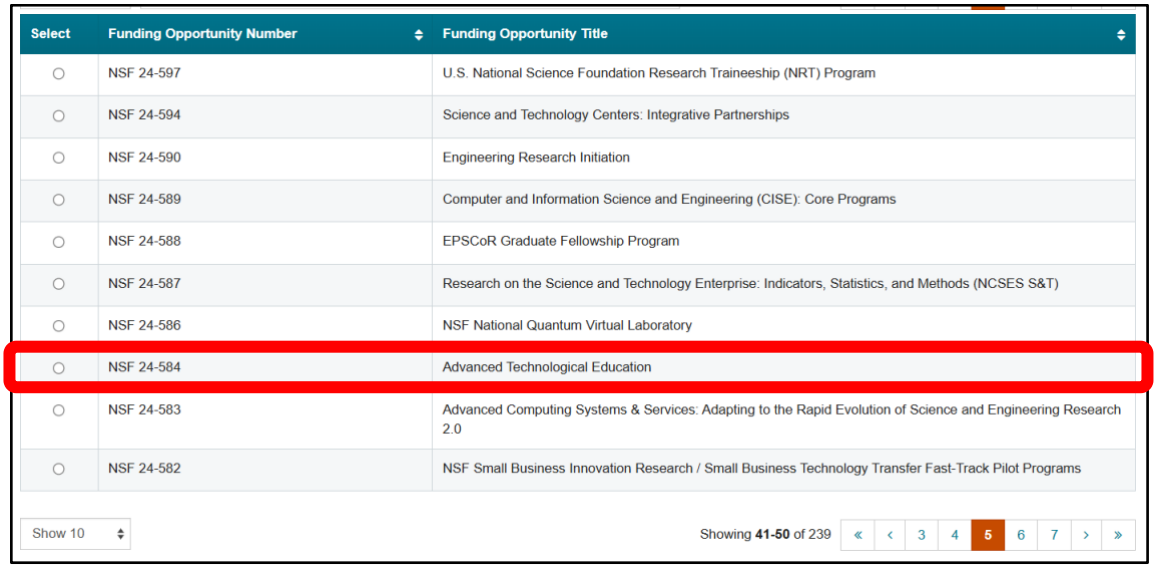
If you need more guidance, click on ***Demo Site*** before you begin preparing your proposal.





Initiate the Proposal. On the next screen, under Prepare New, select *Full Proposal*. When you return to work on the proposal after this initial log-in, use the In Progress tab to access your previous work.

Select the relevant NSF solicitation, i.e. Advanced Technological Education. The next screen will list funding opportunities by solicitation number. Be sure to click on Advanced Technological Education.

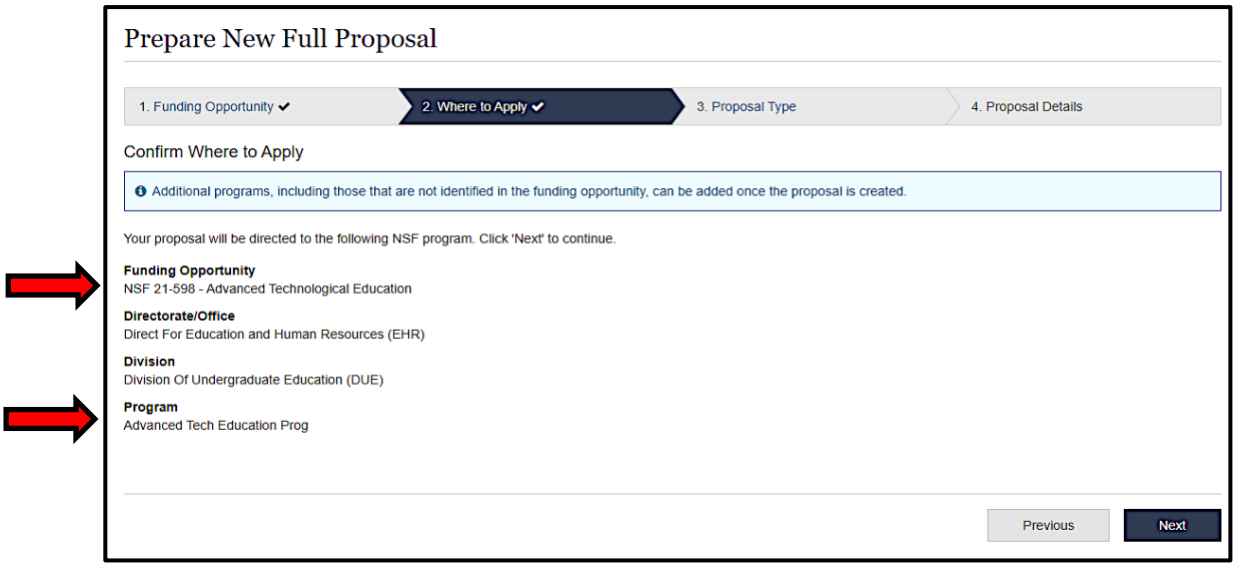


Select	Funding Opportunity Number	Funding Opportunity Title
○	NSF 24-597	U.S. National Science Foundation Research Traineeship (NRT) Program
○	NSF 24-594	Science and Technology Centers: Integrative Partnerships
○	NSF 24-590	Engineering Research Initiation
○	NSF 24-589	Computer and Information Science and Engineering (CISE): Core Programs
○	NSF 24-588	EPSCoR Graduate Fellowship Program
○	NSF 24-587	Research on the Science and Technology Enterprise: Indicators, Statistics, and Methods (NCSES S&T)
○	NSF 24-586	NSF National Quantum Virtual Laboratory
○	NSF 24-584	Advanced Technological Education
○	NSF 24-583	Advanced Computing Systems & Services: Adapting to the Rapid Evolution of Science and Engineering Research 2.0
○	NSF 24-582	NSF Small Business Innovation Research / Small Business Technology Transfer Fast-Track Pilot Programs

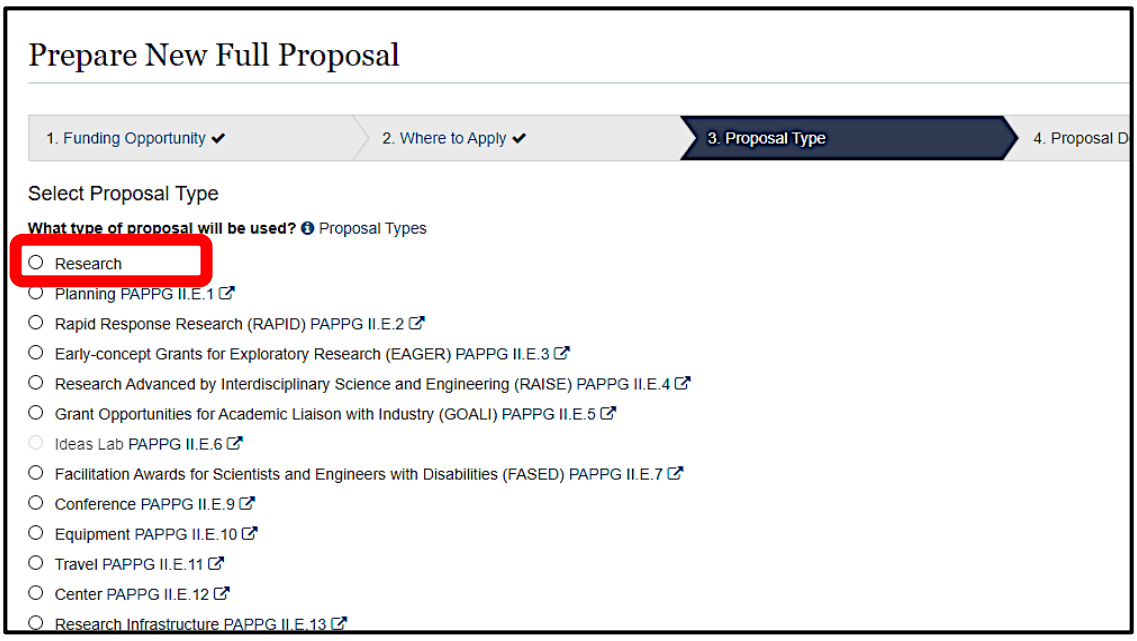
Show 10 Showing **41-50** of 239 « ‹ 3 4 **5** 6 7 › »

The number of the current ATE solicitation is 24-584. It is on Page 5 of the solicitation list. The solicitation number will change when the next version is released, and as other solicitations are updated with new numbers the NSF ATE solicitation will move from page 5, further down the list. Look at the numbers and scroll until you find the specific solicitation for the Advanced Technological Education (ATE) Program.

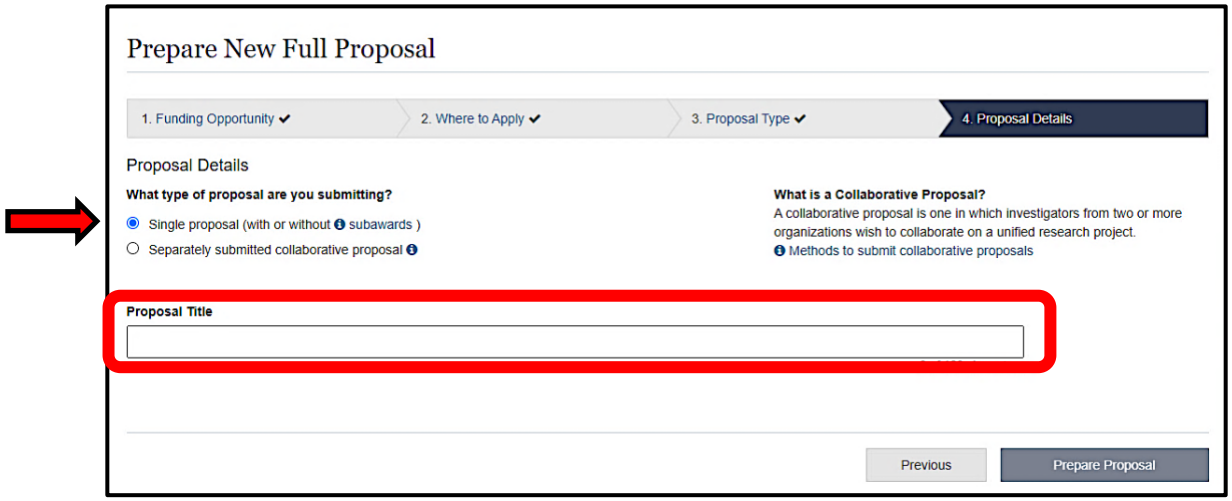
Use the Verification Screen. The next thing you will see is a verification screen. Make sure that the Advanced Technological Education Solicitation is listed as the Funding Opportunity and as the Program. If so, everything else on this screen will also be correct. If your screen does not have Advanced Technological Education in these two places, use the Previous button at the bottom of the screen to go back and correct your solicitation selection.



Select the Proposal Type. On the next screen, select *Research* as the proposal type. (All ATE proposals are designated as Research, since they are considered applied educational research.)

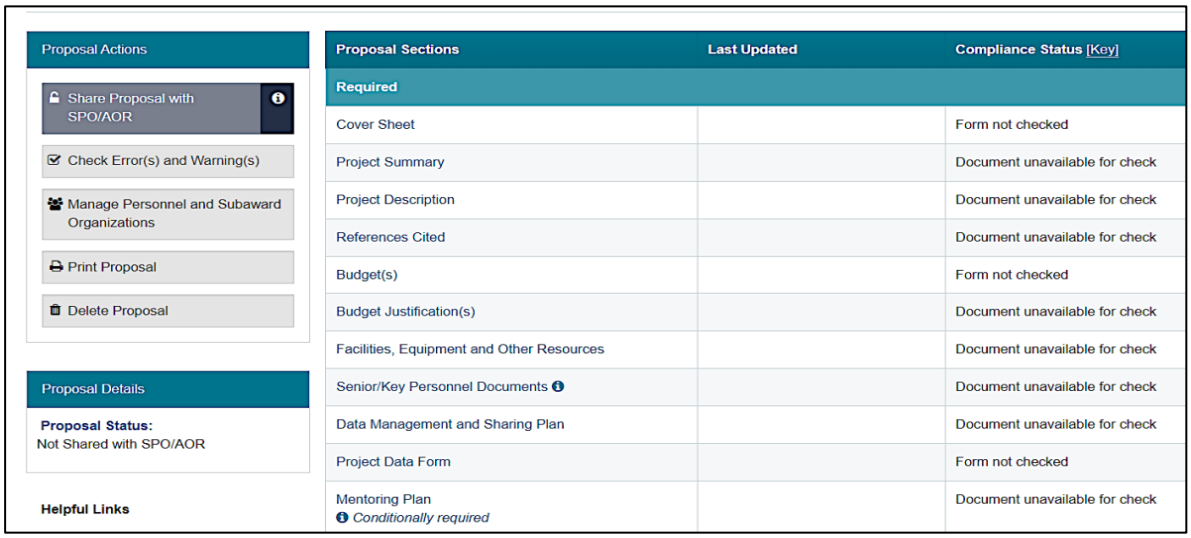


Provide Proposal Information. The next section asks for additional proposal details. Most of you will indicate that you are developing a single proposal, rather than a more complex collaborative proposal. This is also where you will provide the proposal title. Make certain that it reflects the purpose of your project. Do NOT try to come up with a cute acronym and make the name match! Remember that if your focus shifts, the title can be edited. Click on *Prepare Proposal* to go to the Control Page.



Access the Forms on the Control Page. The next screen is the Control Page. It lists all sections of the proposal. When you click on one of them, a hot link will take you to a form to complete or a document to upload as a form. Under Compliance Status, you will see the items that are identified as forms and documents. *Not checked* and *unavailable for check* mean that these items have not yet been uploaded. When you upload a document, compliance information for that item is automatically provided. The center column will show the date when you last updated it, and the status column will indicate that it has been uploaded.

You will notice that the last item on the list is a Mentoring Plan. Unless your projects include graduate student mentoring, for which mentoring plans are required, you will not complete this item.



Project Description. The Project Description is one of the items identified as a document on the Control Page. The webinar did not focus on it in detail since it is discussed at length in the Mentor-Connect workshops and as part of ongoing mentoring. The webinar did, however, provide an overview of some things that you need to know when you begin working on the Project Description.

Every Project Description must begin with a section titled Results from Prior NSF Support. Track 1 proposals with PI/Co-PIs who have no previous NSF grant experience will not be expected to show results of prior support. Even so, you must include this section heading. If you have not received prior NSF funding state that, if awarded, this will be your first ATE grant.

If senior personnel have served as PIs or Co-PIs on NSF grants for your institution or *at other institutions* with end dates in the past five years, information about those projects must be reported here. Identify the personnel, the name(s) of the institution(s) that received the award(s), title of the award(s), award number(s) of the project(s), a description of the outcomes under the headings Intellectual Merit and Broader Impacts and provide metrics that demonstrate results.

NOTE: Make sure that any institution with NSF funding whose employees will be PI, Co-PI, or Senior Personnel for your project is current with required NSF reporting. An overdue report will prevent your own institution from receiving an NSF grant.

NSF recommends that you include information about recent grants received by your college from other funding sources if they relate to the proposed work, even though the section heading refers to results from NSF support. It is also appropriate to note in the Results from Prior NSF Support if you are a participant in the Mentor-Connect project or in any another ATE-funded initiative that assisted you as you prepared your proposal.

The rest of the Project Description is the HEART of your proposal. Explain what you want to do, why you want to do it, how you plan to do it, how you will know if you are successful, and what benefits and impacts will result from a successful project. This means including information about the project's motivating rationale, goals, objectives, activities, deliverables, intellectual merit and broader impacts – as well as a timetable, management plan, the roles and responsibilities of the PI, Co-PIs, and other senior personnel; a plan for sustainability after the period of NSF funding ends, an evaluation plan, and a dissemination plan - ALL WITHIN 15 PAGES! You will find this work more manageable if you start by creating an outline with sections, headings and key points, then adding tables or charts (like your timeline) before you write the narrative. Do not number the pages. The system will do that for you.

Intellectual Merit must be discussed in the Project Description but does not require a separate heading. Broader Impacts must be addressed in a separate section with the heading on its own line.

The Evaluation Plan must be a separate section of the Project Description that provides detailed information about how the project will be evaluated, in terms of both implementation and outcomes. Include specific data sources and collection methods and explain how your evaluation data will be used to assess the work of the project and to improve it. If you can select a project evaluator before submitting the proposal, include that person's name and affiliation, and be sure that they collaborate on this section of the proposal. For more information about developing evaluation plans for ATE proposals, see the Mentor-Connect Resource Library. The EvaluATE website, https://Evalu-ATE.org, also has excellent resources.

Reviewers may read as many as 10-12 proposals, and they appreciate readability.

- All reviewers will receive electronic copies of your proposal, and many will print it in black and white. Avoid color as well as any gray scale shading that does not print well.
- Avoid packing your pages with too much text. Use informative section headings and summarize information in bulleted lists and charts.
- Consider using a Logic Model to present concise information about inputs, activities, and outcomes.

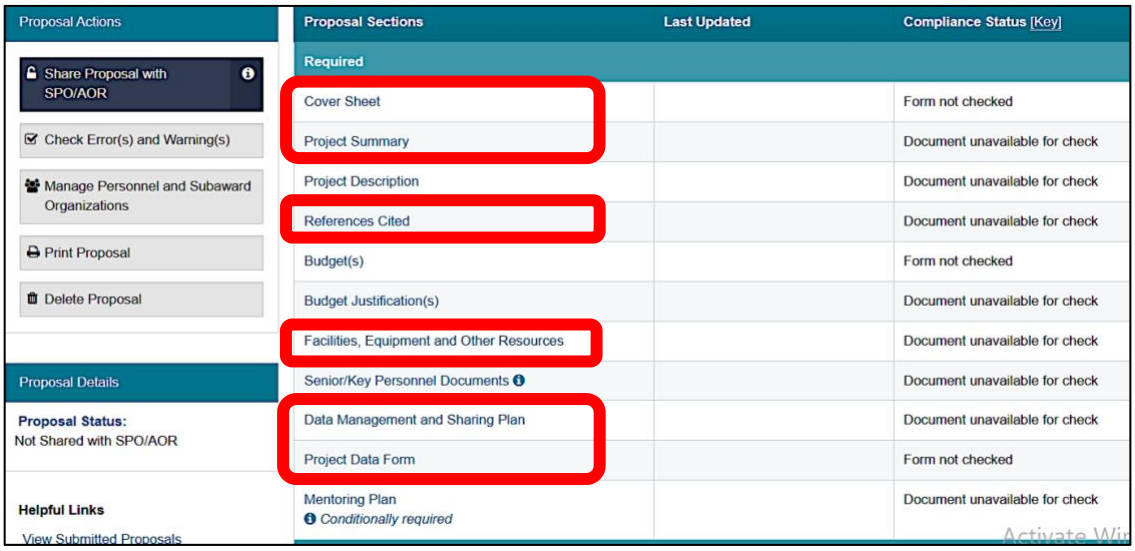
Do not include URLs or hyperlinks that would cause reviewers to leave the project description to view an external site. Such external information is not allowed since it circumvents page limitations. In addition, websites could be altered or removed between submission and review of your proposal. Remember that illustrations and other visuals must be included in the 15-page limit. Appendices are not allowed. You will see a place to upload Supplementary Documents, but only Letters of Collaboration and the evaluator's biosketch (or selection criteria, if the evaluator is selected via a bidding process) may be uploaded here.

Once your Proposal is uploaded, print it, read it carefully, and have others read it so that you can correct any errors or ambiguities. Make sure that it follows the PAPPG rules for page limits, margins, and formatting. These are rules, not guidelines. If you break any of them your proposal can be returned automatically without being considered.

- Margins, in all directions, must be at least one inch.
- In all uploaded sections of your proposal, including supplementary documents, the PAPPG allows a minimum 10-point font in Arial 6 (not Arial Narrow), Courier New and Palatino Linotype. For Times New Roman and the Computer Modern family, the minimum allowable font is 11-point. Mentor-Connect recommends avoiding 10-point size fonts, except in tables, to ensure readability.
- Your proposal may have no more than six lines of text within a vertical space of one inch. Measure the lines on a printed PDF page with a ruler before uploading!

Forms Discussed in the Webinar

This reference guide will cover the circled forms on the control page, in the order that they were addressed in the webinar, rather than the order in which they appear on the page.

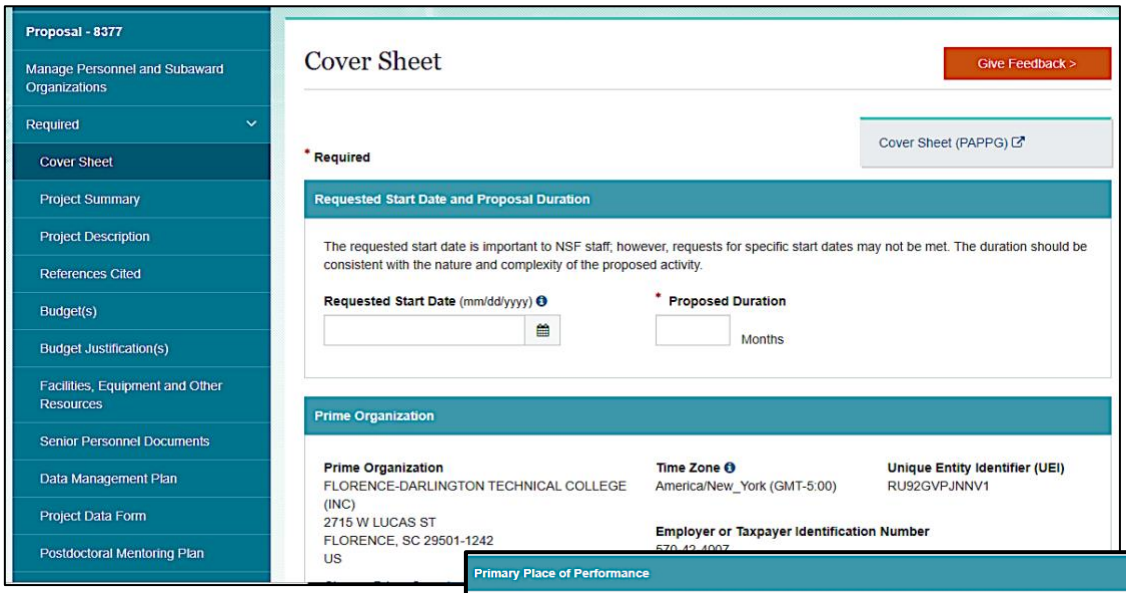


Cover Sheet

Start preparing your proposal by clicking on the Cover Sheet hot link on the control page. It provides NSF with administrative details and data that are required for a proposal and with the certifications that all statements in the proposal are true and that the college is following the appropriate federal grant regulations.

Project Start Date and Duration. The most frequently requested ATE project start dates are June 1, July 1, and September 1. Your business office may prefer a July 1 start date so that the grant budget year aligns with the fiscal year at the college. However, if your project involves faculty who are not on contract in the summer, you may want to choose September 1 so that you have personnel on board at the start of the project. (Note that requesting an early start date won't speed up the funding process! Your preferred start date will have no impact on when your grant award is made.)

The proposed duration of an ATE project can be either two or three years. Mentor-Connect strongly recommends requesting 3 years (36 months) for maximum flexibility. If you conclude your work in less than 36 months, you can close out the grant early.



General Information. The next section of the cover sheet asks for information about the place where your project will be performed. In most cases, this will be your college.

Other Information. In this section, the question under Human Subjects regarding Institutional Review Board (IRB) approval applies to all ATE grant applicants. (The other questions will not be relevant to most prospective ATE grantees, with the possible exception of potential impacts on tribal nations.) Indicate that the IRB review is pending unless your proposal was reviewed by an IRB that issued a determination letter prior to proposal submission. *Note that an IRB determination letter will be required before NSF can award a grant. Be sure to submit your proposal for IRB review while it is being considered for funding.*

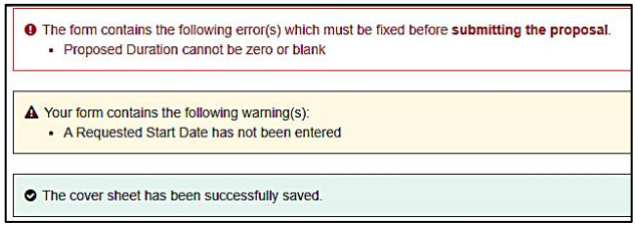
IRB requirements and the language about IRBs can be confusing. It takes one level of IRB review to be completed by the IRB chair to determine if your proposal is "exempt," which means your proposal is exempt from further review. Should a proposal not be considered "exempt" at the first level of review, then all members of the IRB must review the proposal and other guidelines may apply. ATE proposals are almost always deemed "exempt."

Eight categories of research qualify for exemption from coverage by the regulations for protection of human research subjects. (Keep in mind that all NSF grant-funded work is considered research.) ATE projects typically fall in the exempt category based on Basic Health and Human Services (HHS) Policy for Protections of Human Research Subjects, Subpart A, subsection 46.104(1) which covers educational settings or subsection 46.104(2) which deals with educational tests, survey procedures, observation of behavior, etc. Review by the IRB chair will determine if your proposal falls into at least one of the 8 categories. If so, your proposal will be declared exempt from further IRB review. The IRB Chair can then issue the determination letter.

Mentor-Connect recommends setting up an IRB at your college instead of relying on another institution to provide IRB review of your proposal. Since establishing an institutional policy and procedure is required to establish an IRB, your college needs to do this well in advance of the time your proposal will be considered for an award. See the Mentor-Connect resource library for guidance on how to establish an IRB; how to train those who will serve on this board; sample templates for submitting your proposal to the IRB for review; and a sample determination letter that is required from that review.

If your ATE project may involve the resources or interests of a federally recognized American Indian or Alaskan Tribal Nation, you *must* check the box entitled "Potential Impacts on Tribal Nations." This includes planning to reference a Tribal Nation in materials, public forums or publications. You do not need to submit written confirmation of the Tribal Nation's approval with your ATE proposal. However, you must enclose with your proposal a copy of any written request for approval that was submitted to the Tribal Nation. If your proposal is recommended for funding, you must submit documentation of the Tribal Nation's approval before NSF will make an award decision.

Auto-Check. When you have completed your Cover Sheet, the auto-check system will alert you about any errors or missing information. If the Cover Sheet is complete, you will see a message saying that it has been saved.



This is what the first page of the Cover Sheet will look like when it is generated by Research.gov. (Your unique proposal number will be generated by the system.)

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./ DUE DATE: NSF 21-598 10/05/2023 — ☐ Special Exception to Deadline Date Policy

FOR NSF USE ONLY — NSF PROPOSAL NUMBER: 2348707

FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.): DUE - ATE-Projects

DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	UEI(Unique Entity Identifier)	FILE LOCATION
09/25/2023	1	11040000 DUE	7412	F6GULVFKKQA6	

EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN): 560937578

SHOW PREVIOUS AWARD NO. IF THIS IS ☐ A RENEWAL ☐ AN ACCOMPLISHMENT- BASED RENEWAL

IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES ☐ NO ☒ IF YES, LIST ACRONYM(S)

NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE: [redacted]

ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE: 245 COLLEGE RD SMITHFIELD,NC 27577-6055 US

AWARDEE ORGANIZATION CODE (IF KNOWN):

NAME OF PRIMARY PLACE OF PERF: Johnston Community College

ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE: 245 COLLEGE RD, PO Box 2350 SMITHFIELD,NC 27577-6055 US

IS AWARDEE ORGANIZATION (Check All That Apply) ☐ SMALL BUSINESS ☐ FOR-PROFIT ORGANIZATION ☐ MINORITY BUSINESS ☐ WOMAN-OWNED BUSINESS

☐ IF THIS IS A PRELIMINARY PROPOSAL THEN CHECK HERE

TITLE OF PROPOSED PROJECT: Implementing a Simulated Cyber Range Training Environment to Prepare Cyber Technicians

SHOW LETTER OF INTENT ID IF APPLICABLE

REQUESTED AMOUNT	PROPOSED DURATION (1-60 MONTHS)	REQUESTED STARTING DATE	SHOW RELATED PRELIMINARY PROPOSAL NO. IF APPLICABLE
$ 645,836	36 months	07/01/2024	

THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW

☒ TYPE OF PROPOSAL: Research
☒ COLLABORATIVE STATUS: Non-Collaborative
☐ BEGINNING INVESTIGATOR
☐ DISCLOSURE OF LOBBYING ACTIVITIES
☐ PROPRIETARY & PRIVILEGED INFORMATION
☐ HISTORIC PLACES
☐ LIVE VERTEBRATE ANIMALS IACUC App. Date
PHS AnimalWelfareAssurance Number

☐ HUMAN SUBJECTS Human Subjects Assurance Number
Exemption Subsection or IRB App. Date
☐ FUNDING OF INT'L BRANCH CAMPUS OF U.S IHE
☐ FUNDING OF FOREIGN ORGANIZATION OR FOREIGN INDIVIDUAL
☐ INTERNATIONAL ACTIVITIES: COUNTRY/COUNTRIES INVOLVED
☐ POTENTIAL LIFE SCIENCES DUAL USE RESEARCH OF CONCERN
☐ OFF-CAMPUS OR OFF-SITE RESEARCH

PI/PD DEPARTMENT: Business Education and Technology
PI/PD FAX NUMBER:

PI/PD POSTAL ADDRESS: 245 College Road PO Box 2350 Smithfield,NC 27577 US

NAMES(TYPED)	High Degree	Yr of Degree	Telephone Number	EmailAddress
PI/PD NAME [redacted]	EdD	2016	[redacted]2197	[redacted]du
CO-PI/PD [redacted]	BS	1992	[redacted]-2204	[redacted]
CO-PI/PD				
CO-PI/PD				
CO-PI/PD				

The second page shows the required college certifications. Note that the Authorized Organizational Representative (AOR) is the only individual who may submit and sign this certification page.

CERTIFICATION PAGE

Certification for Authorized Organizational Representative(or Equivalent)
By electronically signing and submitting this proposal, the Authorized Organizational Representative(AOR) is:(1)certifying that statements made here in are true and complete to the best of the individual's knowledge; and(2)agreeing to accept the obligation to comply with NSF award terms and conditions if an award is made as a result of this proposal. Further, the proposer is hereby providing certifications regarding conflict of interest, flood hazard insurance, responsible and ethical conduct of research, organizational support,and safe and inclusive working environments for off-campus or off-site research, as set forth in the NSF Proposal & Award Policies & Procedures Guide(PAPPG).Willful provision of false information in this application and its supporting documents or in reports required under an ensuing award is a criminal offense(U.S.Code,Title 18,Section §1001).

Certification Regarding Conflict of Interest
The AOR is required to complete certifications stating that the organization has implemented and is enforcing a written policy on conflicts of interest (COI), consistent with the provisions of PAPPG Chapter IX.A; and that, to the best of the individual's knowledge, all financial disclosures required by the conflict of interest policy were made; and that conflicts of interest, if any, were, or prior to the organization's expenditure of any funds under the award, will be, satisfactorily managed, reduced or eliminated in accordance with the organization's conflict of interest policy. Conflicts that cannot be satisfactorily managed, reduced or eliminated and research that proceeds without the imposition of conditions or restrictions when a conflict of interest exists, must be disclosed to NSF via use of the Notifications and Requests module with Research.gov

Certification Regarding Flood Hazard Insurance
Two sections of the National Flood Insurance Act of 1968 (42 USC §4012a and §4106) bar Federal agencies from giving financial assistance for acquisition or construction purposes in any area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards unless the:
(1) community in which that area is located participates in the national flood insurance program; and
(2) building (and any related equipment) is covered by adequate flood insurance.

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) located in FEMA-designated special flood hazard areas is certifying that adequate flood insurance has been or will be obtained in the following situations:
(1) for NSF awards for the construction of a building or facility, regardless of the dollar amount of the award; and
(2) for other NSF awards when more than $25,000 has been budgeted in the proposal for repair, alteration or improvement (construction) of a building or facility.

Certification Regarding Responsible and Ethical Conduct of Research (RECR)
(This Certification applies to proposals submitted prior to July 31, 2023, and is not applicable to proposals for conferences, symposia, and workshops.)
By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal & Award Policies & Procedures Guide, Chapter IX.B., the institution has a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students and postdoctoral researchers who will be supported by NSF to conduct research. The AOR shall require that the language of this certification be included in any award documents for all subawards at all tiers.

Certification Regarding Responsible and Ethical Conduct of Research (RECR)
(This Certification applies to proposals submitted on or after July 31, 2023, and is not applicable to proposals for conferences, symposia, and workshops.)
By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal & Award Policies and Procedures Guide, Chapter IX.B., the Institution has a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, postdoctoral researchers, faculty, and other senior personnel who will be supported by NSF to conduct research. As required by Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act (42 USC 1862o – 1), as amended, the training addresses mentor training and mentorship.The AOR shall require that the language of this certification be included in any award documents for all subawards at all tiers.

Certification Regarding Organizational Support
By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that there is organizational support for the proposal as required by Section 526 of the America COMPETES Reauthorization Act of 2010. This support extends to the portion of the proposal developed to satisfy the Broader Impacts Review Criterion as well as the Intellectual Merit Review Criterion, and any additional review criteria specified in the solicitation. Organizational support will be made available, as described in the proposal, in order to address the broader impacts and intellectual merit activities to be undertaken.

Certification Regarding Dual Use Research of Concern
By electronically signing the certification pages, the Authorized Organizational Representative is certifying that the organization will be or is in compliance with all aspects of the United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern.

Certification Requirement Specified in the William M.(Mac)Thornberry National Defense Authorization Act for Fiscal Year 2021, Section 223(a)(1) (42 USC 6605(a)(1))
By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that each individual employed by the organization and identified on the proposal as senior personnel has been made aware of the certification requirements identified in the William M.(Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Section 223(a)(1) (42 USC 6605(a)(1)).

Certification Regarding Safe and Inclusive Working Environments for Off-Campus or Off-Site Research
(This certification applies only to proposals in which data/information/samples are being collected off-campus or off-site, such as fieldwork and research activities on vessels and aircraft.)
By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal & Award Policies and Procedures Guide, Chapter II.E.9, the organization has a plan in place **for this proposal** regarding safe and inclusive working environments.

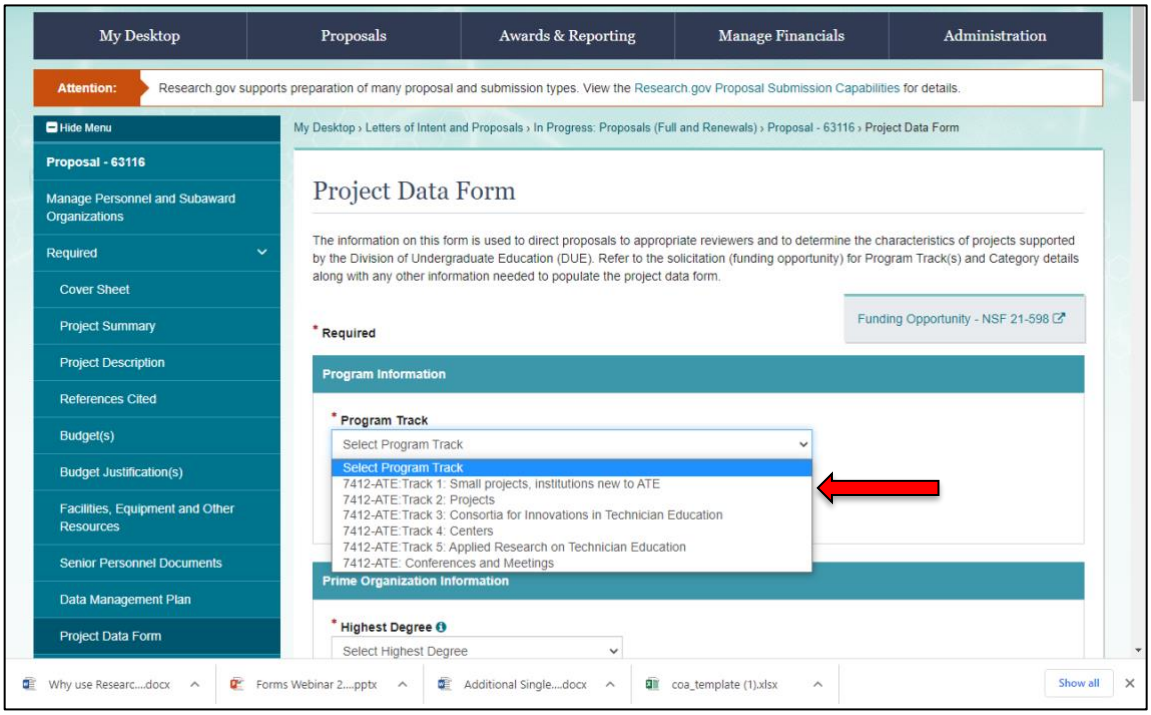
AUTHORIZED ORGANIZATIONAL REPRESENTATIVE	SIGNATURE	DATE
NAME [redacted]	Electronic Signature	Sep 25 2023 09:36 AM

TELEPHONE NUMBER	EMAIL ADDRESS	FAX NUMBER
[redacted]	[redacted]	

Project Data Form

The Project Data Form is listed near the bottom of the control page, but it is a logical next step as you begin submitting information.

Program Track: Choose the ATE funding track for your proposal from a dropdown menu. Most applicants who are developing their first ATE proposal will choose Track 1, which is for smaller projects than Track 2. (Until 2024 Track 1 was reserved for colleges that had not received funding for at least 7 years. The screenshot below shows what was listed at the time of the webinar. NSF is aware that the wording needs to be updated to reflect the language in Solicitation 24-584.) Selecting the appropriate funding track is important since it guides everything from setting the funding limits for your proposal to determining how your proposal is placed for review.

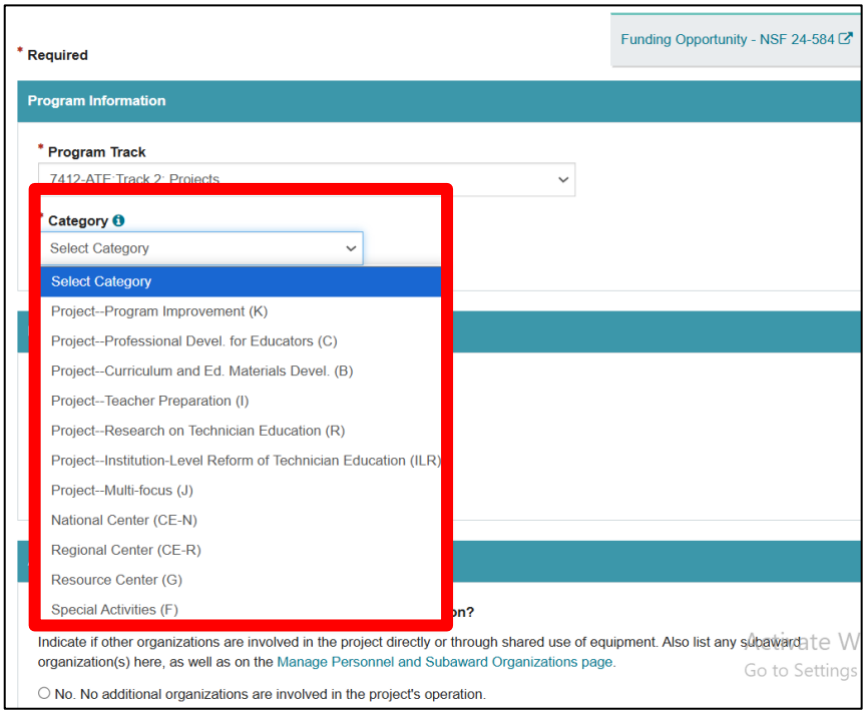


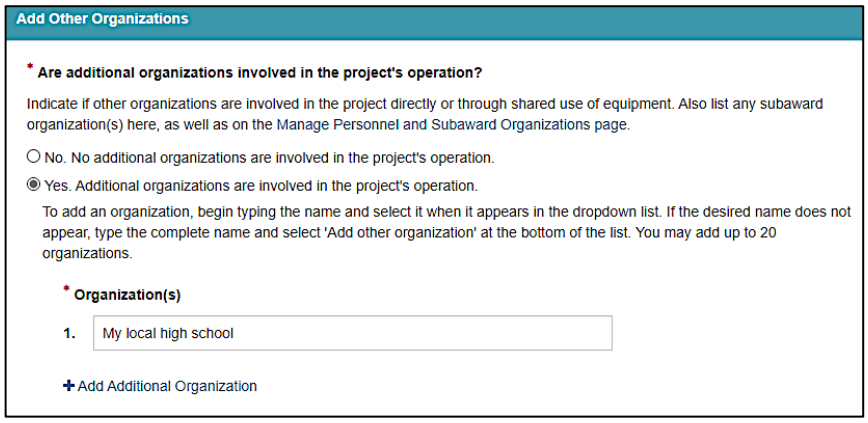
Category: Select a category from the drop-down menu that best describes your project. Don't worry if your project doesn't directly align with one of the choices. Select one that is reasonably close.

Prime Organization Information: Use the dropdown menu to provide the requested information about your institution.

Add Other Organizations: The same screen also asks for information about other institutions and organizations, including subaward organizations, that will contribute to your project. List them here and make certain that each one provides a letter of commitment that explains the ways in which it will contribute to the project.

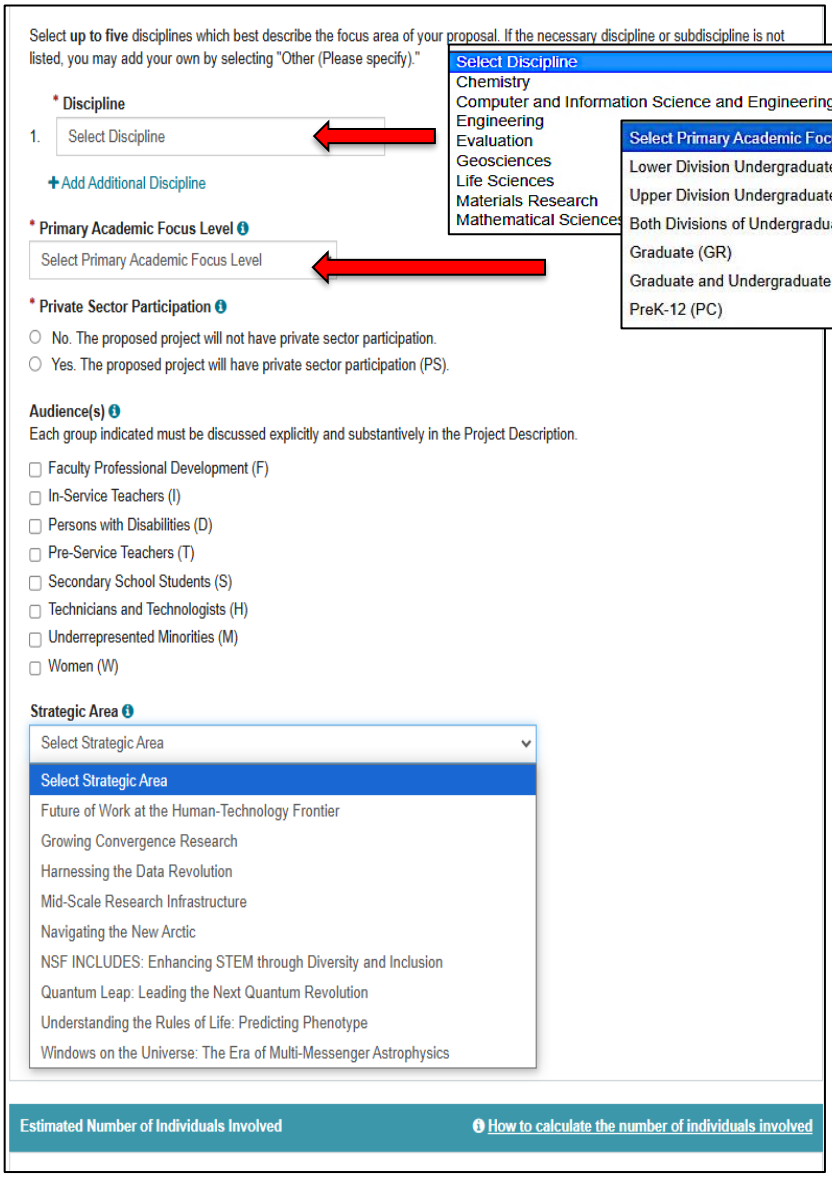
Every ATE proposal should indicate involvement with relevant industries. If your project isn't connected with local industries in some meaningful way, it is unlikely that your proposal will be funded. The relationships you develop with industries will be especially important if, after successfully completing a Track 1 project, you decide to apply for subsequent funding for a more comprehensive project.





Discipline: The drop-down choices for project discipline, shown below, are generic categories and may not be a good fit for your project. Pick the one you think is most reasonable. Program Officers use this information to help identify reviewers, but they also rely on other information to ensure that your proposal is placed appropriately for review.

Primary Academic Focus: Proposals submitted by community colleges will usually have a Lower Division Undergraduate focus.

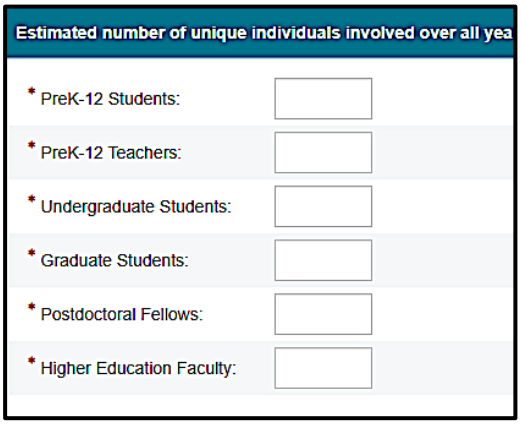


Private Sector Participation: Business and industry are private sector enterprises, so every ATE proposal should respond "yes" to this question.

Audience(s): Think carefully about your audiences and the impact your project will have on different groups. Benefits can and should cascade as part of your Broader Impacts. You may have 12 teachers in a workshop, and when each of those teachers takes new knowledge back to their classrooms many students will benefit.

Strategic Area: If the project focuses on one of the Strategic Areas listed, select it. Otherwise, leave this window blank.

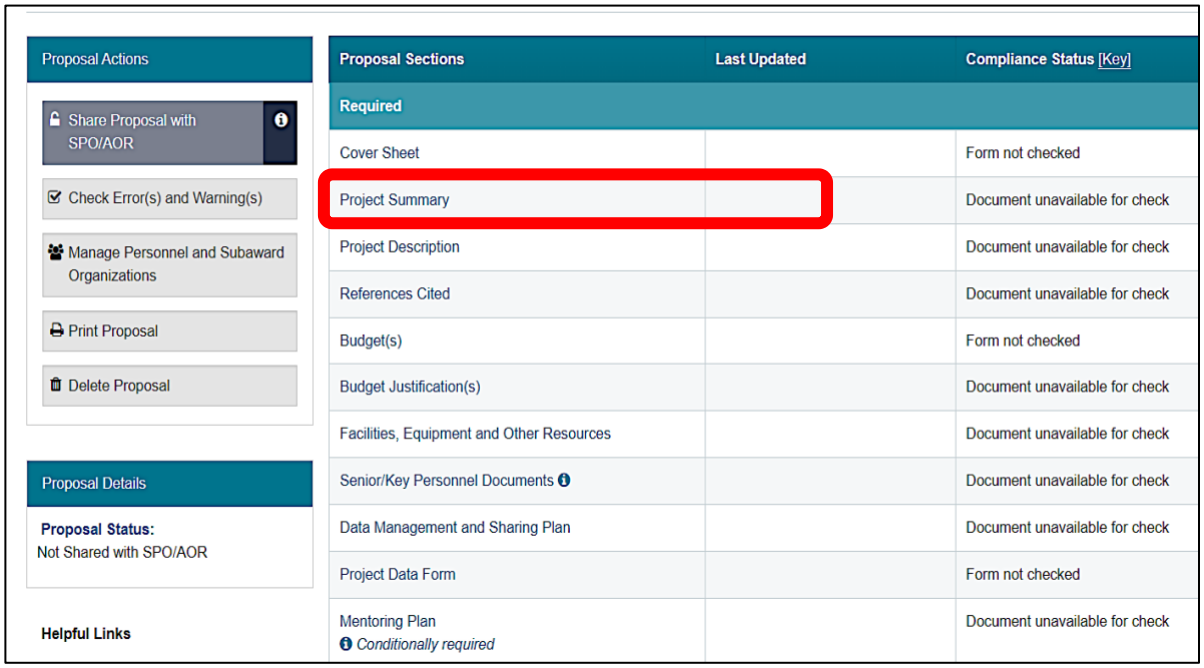
Number of Individuals Involved: At the bottom of the screen shown on the preceding page, you will indicate which groups will be involved with or impacted by your project, and you will estimate the total number in each category. (Be sure to explain their roles and how they will benefit in the Project Description.) Remember to include not only the number of high school teachers who will be directly impacted but also the number of students who will benefit from what their teachers bring back to their classrooms.



Keep notes about how you determine the numbers you report. You may be asked about this during the negotiations with NSF that often take place prior to recommending your proposal for an award.

Project Summary

Develop your Project Summary as a separate, one-page document and upload it as a PDF file. (Remember that Research.gov only accepts PDF files.)



The Project Summary consists of three components: Overview, Intellectual Merit, and Broader Impacts, each with its own heading on a separate line. This is one of the most important pages in your proposal. The summary is a concise explanation of your project. It will be read several times during the review process: when assigning your proposal to a review panel, during panel review, in post-panel discussions comparing competitive proposals, and during the award process.

Overview: Clearly indicate the disciplinary focus of the project. Explain your goal(s) and objectives and what you will do to achieve them. Describe the proposed activities (i.e. curriculum or program development, professional development for educators, etc.), and the primary audience for those activities**.** If this is all someone reads about your project, they should be able to understand what you plan to do and how you will do it. **DO NOT** use this space for building a rationale for your project, describing your college or community environment, or stating the size of the grant you are requesting.

Broader Impacts: Describe the potential of the proposed activities to benefit society. Be specific about your project's anticipated impact on your discipline, regional economic needs, and local industries. Questions you will address in your Broader Impacts may include:

- Has an assessment of relevant workforce needs been conducted? Does the project work with employers to assess their current and future needs for technicians?
- Will similar programs at other colleges benefit from your project? How will they be able to access relevant information and resources?

Intellectual Merit: Describe the potential of the proposed activities to advance knowledge. Questions you will address in your Intellectual Merit section may include:

- Does the project have the potential for improving student learning in technician education programs?
- Is the rationale for developing the objectives and activities clearly articulated and informed by the research literature?

Study the criteria for Broader Impacts and Intellectual Merit provided in the ATE Program Solicitation and the PAPPG to be sure that you understand what NSF means by these terms. Your project does not need to align with all mentioned NSF criteria, but you need to be clear in describing how it will specifically address some of them. Note that reviewers will look very carefully at these sections of your proposal as they develop their assessments of your work.

References Cited

Reference citations must be compiled and uploaded as a separate References Cited document. Do not use automated endnotes because the references would then be included in your 15-page Project Description. Your references will inform reviewers of the sources of data and information that you used to build the rationale for your project. References also demonstrate that you have done the research that enabled you to draw from or build upon relevant work. There is no magic number for citations, but if you have fewer than 5 the reviewers are likely to assume that you haven't completed your homework. Curate your sources to strengthen your credibility. For example, cite current labor market data from a government agency, or cite a study published in a peer-reviewed academic journal, rather than a newspaper editorial or a Wikipedia page.

NSF encourages both adaptation and adoption of strategies and work undertaken in other funded projects. Cite references to sources of data and/or work that led you to select a particular strategy, curriculum, teaching methodology or other promising or proven approaches. New AI tools such as NotebookLM can help to synthesize data from multiple studies as well as other sources, such as recorded lectures and presentations. Citation management tools like Zotero, Mendeley, or EndNote can help you manage and format your references.

Note that reference citations are also where you provide the sources of data that support your results of prior support and your motivating rationale. Labor market data from a government agency could, for example, support your rationale for developing new courses that address specific workforce needs.

Follow standard accepted scholarly practices (e.g., APA, MLA) for listing references. Be consistent in using the style you choose. Avoid the use of et. al. except for large consortia papers. In the Project Description *manually* number your references. Then prepare the separate References Cited document with citations that correspond to those numbers.

Facilities, Equipment and Other Resources

NSF uses the Facilities, Equipment and Other Resources form to assess the adequacy of resources (infra-structure, laboratories, equipment, etc.) that support your proposed project at your home institution and else-where. Clicking on this item will produce a list of categories. Provide information about the relevant categories and state "not applicable" if they do not pertain to your project.

Your information should be a narrative like the one in this example. Focus on items and personnel that directly support your project. Do not include financial information, photos, or descriptions of capabilities that do not relate to your project. NOTE: The inclusion of pictures is one instance where PAPPG information differs from that in the ATE Solicitation. The PAPPG allows pictures, but the Solicitation does not. Use the Solicitation for guidelines regarding the format of these documents!

FACILITIES, EQUIPMENT AND OTHER RESOURCES

Laboratory: The makerspace, located in the Newton building, will be used for the Power of Us program's Tech Tuesdays, Taste of Industry, and Summer Camps. The makerspace will provide a collaborative space for the students to use equipment that might not be available in other labs across campus. Other conference rooms and labs will also be used for these events. The targeted program labs in the Newton and Ingram buildings will also be used because they contain equipment that cannot be moved. The multipurpose rooms in the Wynn Center and Ingram buildings will be used for the opening session, lunch, and closing session for the Taste of Industry event.

Clinical: Not applicable

Animal: Not applicable

Computers: In addition to the computers in the labs referenced above, the College employees involved in the Power of Us project will utilize computers provided by the College in their offices.

Office: Office space for College employee project participants will be provided by the College. Each office has a computer, a phone, office furniture, and office related items. The offices are in the Newton and Ingram buildings.

Other: Other personnel supporting the project will include members of the College's leadership staff, the College's high school liaisons, selected nine- and twelve-month faculty, the College's marketing department, and the program's student workers (Power of Us Ambassadors). The staff from the College's institutional research office (Research, Evaluation, Assessment, and Planning (REAP)) will work with the PI, Co-PI, and Evaluator to provide the data needed to report outcomes.

Major Equipment: The following special equipment will be used in the specific program labs:

- Automotive Systems Technology Labs – Equipment in Durham Tech's garage includes but is not limited to car lifts; hand, power, and specialty tools; and diagnostic equipment.
- Biomedical Equipment Technology Labs – Students receive instruction and have hands-on learning experiences in a lab stocked and outfitted with biomedical equipment most used by healthcare providers and private industry, such as sterilization machines and diagnostic equipment. Instructors use the equipment as teaching aides and students use the equipment to gain experience with troubleshooting and repair skills. Students learn to use hand, power, and specialty tools in the lab.
- Networking Labs – Labs are equipped with computers, switches, routers, and closed networks that instructors can use to teach students how to analyze, test, troubleshoot, and evaluate network systems and plan, implement, upgrade, or monitor security measures for the protection of computer networks and information.
- Electrical Systems Technology Labs – Students have hands-on learning experiences with everything from basic electricity kits that include bulbs, batteries, simple switches to demonstration systems that include the same kinds of complex switches and wiring found in residential, commercial, industrial facilities and programmable logic controllers (PLCs).

Some examples of items to include:

- Laboratory support: If lab support is important for your project, describe your current capability even if the proposal calls for improvements or additional equipment.
- Computer Capability: Describe available computer capabilities that are essential for your project.
- Office Support: Grant budgets may not include office space, office furnishings or standard equipment like copiers and desktop computers that support normal office operations. Indicate that such resources will be available and list them here.
- Major Equipment: If your project will depend on existing major equipment, describe it, whether it belongs to your college or a collaborating institution or industry.
- Other: Describe resources other than facilities and equipment, such as administrative/personnel support provided by the college, an internal advisory committee, a college recruiter who will support outreach activities without grant compensation, or institutional research personnel who will help with internal evaluation and data collection without grant compensation. This is also the place to describe any other donated time. But remember to limit such time, and do not assign it any monetary value to avoid having it be seen as cost-sharing, which is not permissible.

Data Management and Sharing Plan

Plans for sharing the outcomes of your work, such as primary data, samples, and supporting materials, are considered part of the Intellectual Merit of your proposal. However, you must consider privacy, confidentiality, intellectual property, and other rights. The Data Management and Sharing Plan provides an opportunity for you to describe the care that will be taken in this regard.

The Data Management and Sharing Plan is a requirement for all NSF proposals. It is a supplementary document of *no more than two pages,* and it must be labeled Data Management and Sharing Plan. Use it to describe how the project will conform to NSF policies regarding the dissemination and sharing of results. Reviewers will evaluate the quality, feasibility, and alignment of your plan. One that is poorly written could negatively impact your proposal's chances of success, so be sure to provide clear, concise, and well-thought-out details.

Begin by identifying the types of data, samples, physical collections, software, curriculum materials, or other products that will be produced during the project. By addressing the following items, your Data Management Plan will ensure that your project's data is managed effectively, ethically, and sustainably:

- Data Standards: Specify the standards that will be used for the data and metadata format and content. If applicable, identify relevant standards that align with the type of data you are handling.
- Gaps in Standards: Document any absence of adequate standards and propose solutions or remedies. This helps ensure consistency and clarity in data handling.
- Access and Sharing Policies: Outline the policies for data access and sharing, including how you will protect privacy, confidentiality, security, intellectual property, and other rights or requirements.
- Re-use and Redistribution: Clearly state your policies for re-use, redistribution, and the production of derivatives so that data and materials can be leveraged beyond the initial project scope.
- Archiving and Preservation: Describe your plans for archiving data, samples, and other research products to ensure long-term access and to preserve the integrity of the data over time.

If you are using a specific storage platform, be sure to include details such as the name of the repository, how the data will be uploaded, and the timeline for when and how the data will be made available to the public. This helps ensure transparency and accessibility.

Your Data Management and Sharing Plan should be flexible enough to adapt to potential changes in project needs, new technologies, or evolving data-sharing requirements. Flexibility is key to accommodating unforeseen developments in the project. Be sure to include any costs associated with storing, organizing, or sharing data within your project's budget.

This is a good example of a Data Management and Sharing Plan, provided by Asheville-Buncombe Technical Community College (A-B Tech) in North Carolina. (The name of the form was changed to Data Management and Sharing Plan in the 24-1 release of the PAPPG, after the A-B Tech plan was submitted.)

Additional examples are available in the Mentor-Connect Resource Library.

You will also find a good source of frequently asked questions about Data Management and Sharing Plans on the NSF website by entering "Dissemination and Sharing of Research Results" in the search engine.

Data Management Plan

Asheville-Buncombe Technical Community College will conform with NSF's policy to disseminate and share results of the proposed project as defined in AAG Chapter VI.D.4. As stated in the Project Description, A-B Tech's plan to disseminate materials includes the following:

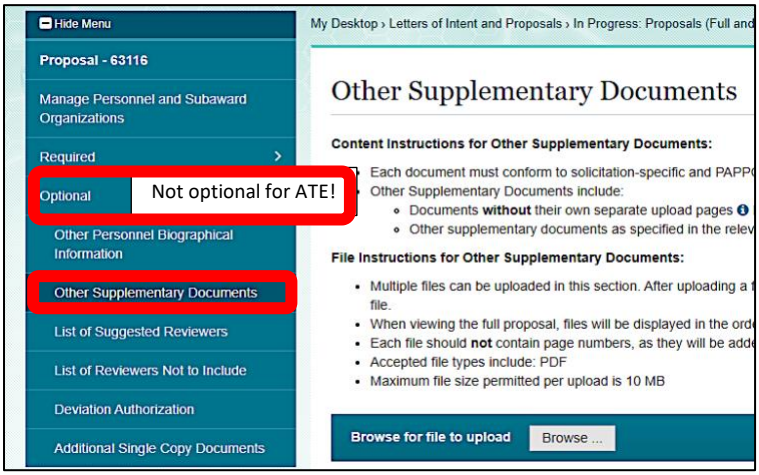
> A-B Tech will work with SC ATE and CyberWatch to disseminate the PBLs adapted for the EGR110, EGR115, EGR125 as well as NET110, NET125, and NOS 110. Recruitment materials, retention strategies, and PBL materials will be disseminated nationally by the SC ATE Center via their website (TeachingTechnicians.org), CyberWatch, through conferences attended by A-B Tech personnel, and through the North Carolina Network for Excellence in Teaching (NC-NET).
>
> NC-NET provides professional development for instructors. All training materials for instructors developed over the course of the grant period can be disseminated to the entire 58-college system in North Carolina. The PI will ensure that materials are disseminated via NC-NET. PI Pamela Silvers has developed an NC-NET presence for a previous Perkins grant.
>
> The project leaders will attend selected national and regional conferences over the course of the grant period such as the bi-annual North Carolina Community College System Conference, National Career Prep Conference, HI-TEC Conference, and the North Carolina Computer Instruction Association Conference. A-B Tech will submit proposals to present and/or displays in exhibition halls.

This proposed project is made possible due to other ATE-funded institutions (SC ATE and CyberWatch) adhering to NSF's policies. A-B Tech will support the dissemination of this information that will benefit a wide audience of educators.

A-B Tech will maintain either paper or electronic copies of all evaluation results, both formative and summative. Participant will not be individually identifiable in any data. The PI will develop a database which will be the primary method for monitoring and tracking participant (both students and faculty via professional development) enrollment, retention, and progress. Any hardcopy materials will be maintained in locked filing cabinets. The PI and Co-PIs will update records on a regular basis.

Other Supplementary Documents

Other Supplementary Documents are listed as "optional" but for the ATE program two kinds of supplemental documents are required. This is one instance where PAPPG information differs from that in the ATE Solicitation. *Use the Solicitation for guidelines regarding the format of these documents!* Note that only the documents listed below may be included as Supplementary Documents. Proposals that include other documents in this section could be returned automatically without being reviewed.



Letters of Collaboration. Letters from industry, education partners, or others must document significant commitments to the project. Some NSF programs consider such letters optional, but for the ATE Program they are a requirement. All letters of collaboration must make specific commitments of support for project activities. You may provide drafts that suggest content topics but avoid providing boilerplate letters for the writers to use or adapt. Duplicate letters will raise questions about the extent of partner commitments. As an alternative to individual letters, you may submit one letter signed by several collaborators who agree to provide the same kind of support. For large projects, you will need a letter of commitment from the president or other appropriate college administrator outlining specific college commitments to the project. Including letters of that do not meet these requirements may result in the proposal being returned without review.

Biographical Sketch for the External Evaluator. If the evaluator is named in the project description, you must upload a biosketch that follows the NSF format in the Other Personnel Biographical Information section of the Supplementary Documents. Do NOT submit it through SciENcv with the biosketches for your project personnel. If an evaluator has not been identified, provide a document with information about the selection criteria to be used for your institution's procurement bid process.

Final advice from Mentor-Connect

- Begin working on your forms as soon as possible.
- Review what you have written several times, before and after uploading to Research.gov.
- Remember to abide by the formatting rules in the PAPPG (Chapter II:B, II-2, and II-3)
- Don't be afraid to ask questions. You can reach our help desk at Mentor-Connect@fdtc.edu or 1-843-676-8541 and the Research.gov help desk at rgov@nsf.gov or 1-800-381-1532.
- Visit the Mentor-Connect resource library at http://library.mentor-connect.org for examples of completed forms and other resources related to NSF ATE proposal submission, such as Webinars, Reference Guides, and Coffee Break recordings on specific topics.

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