This tutorial will guide you through an important process - filling out the forms that will be part of your proposal to the National Science Foundation’s Advanced Technological Education Program. It is based on a Mentor-Connect webinar, conducted in May 2022 and available as a recording in the resource library at Mentor-Connect.org.

It is easy to underestimate the time it takes to fill out the forms! Begin working on them early, so that you have them ready long before the proposal is due.

The following pages will discuss the information required in each of the forms, as well as in the Project Description and Summary. The Budget and Budget Justification are covered in a separate webinar. (See the Resource Library for a recording and a tutorial.)

The tutorial will also focus on how to access and submit the forms via Research.gov. If you have submitted previous proposals using FastLane, you will see that this entails a new and different procedure.

Note that all 2022 ATE proposals must be submitted via Research.gov!
Before you begin working on the forms

1. Become familiar with:
   - The ATE Program Solicitation: NSF 21-598
   - The Proposal and Award Policies & Procedures Guide (PAPPG): NSF 22-1 (Section II)
     https://www.nsf.gov/pubs/policydocs/pappg22_1/index.jsp

Study the proposal preparation guidelines in both documents very carefully. Make sure that you access the current versions (NSF-21-598 and NSF 22-1), since older versions remain on line. Note that an updated ATE Solicitation is expected in summer 2022 – be sure to look for it, since some of the guidelines may change.

The PAPPG covers everything you need to know to submit a proposal and manage a project at any division at the National Science Foundation, while the ATE solicitation includes information that is critical to ensuring that you meet all of the requirements that are specific to the ATE program. If any information is contradictory, always defer to the ATE Program Solicitation.

Take special note of the PAPPG information about typeface and formatting. In all uploaded sections of your proposal, including supplementary documents, use only:
   - Arial, Courier New, or Palatino Linotype at a font size of 10 points or larger;
   - Times New Roman at a font size of 11 points or larger; or
   - Computer Modern family of fonts at a font size of 11 points or larger.

A font size of less than 10 points may be used for mathematical formulas or equations, figures, table or diagram captions and when using a symbol font to insert Greek letters or special characters. PIs are cautioned, however, that the text must still be readable.

Margins, in all directions, must be at least an inch, and your proposal may have no more than six lines of text within a vertical space of one inch. Word documents shrink when converted to PDF, and a Word document that has exactly six lines per inch may have seven lines once converted to PDF. Use a ruler and measure the lines on a printed PDF page before uploading!

2. Verify with your business office that your college is registered in the System for Award Management (SAM).
SAM is a government database which stores and disseminates data that includes federal awards. If your college has not registered with SAM, or if the registration has expired (it must be renewed annually), your business office can register at https://www.sam.gov. Note that you may not submit a proposal to NSF without being registered in SAM!
Until April 2022, DUNS registration was also required. The DUNS requirement has been eliminated and proposals instead must reference a unique identifier created using the SAM website.

3. Identify your Authorized Organizational Representative (AOR).
The AOR is your institution’s representative to NSF while the college develops NSF proposals. This is also the individual who must submit your proposal to NSF. You will see more about the AOR’s role below. Don’t be confused if you see the acronyms SPO (Sponsored Projects Office) or SRO (Sponsored Research Officer) instead of AOR. They are synonyms for AOR used primarily by NSF and universities.

4. Register in Research.gov.
This is a task for your AOR, who will register your institution, along with the project PI, Co-PIs, other senior personnel, appropriate Business Office personnel, and others authorized by the college who may need
access to the grant proposal or other functions, such as requesting grant funds, that are related to the grant proposal. Once registered and granted specific permissions, individuals can then log in with temporary passwords set by the AOR and set their personal passwords. If the college and any of the relevant individuals have already been registered in Fastlane, those registrations have automatically transferred to Research.gov.

5. **Decide who will be responsible for inputting proposal information and uploading content.**
   This is usually the PI or the grant writer. Remember that all forms and proposal content can be “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.”

6. **Become familiar with Research.gov.**
   Many college grant writers are accustomed to submitting grants to federal agencies through Grants.gov. Research.gov is definitely preferable for ATE grants, since it ensures that all required forms are accessible and that your proposal will be received by NSF immediately after it is submitted. (Missing forms and transmission delays from Grants.gov to NSF can result in missing the grant deadline!) Those who are familiar with FastLane will find several advantages when they transition to Research.gov:
   - a fast and easy-to-use wizard
   - immediate compliance feedback when you upload documents
   - stable uploads of PDFs (In FastLane they were at times altered in the uploading process.)
   - on-screen links to the relevant sections of the PAPPG

7. **Review the steps for proposal submission.**
   a. Go to Research.gov and under Proposals, click on “Prepare and Submit Proposals” to access the log-in screen below. Do not select the option to prepare your proposal in FastLane! If you do, you will have to resubmit everything to Research.gov before the due date.
b. After logging in the first time you will see a pop-up that asks if you want to continue to the proposal system. When you come to the next screen, select the “Prepare New” box, then select “Full Proposal.” After this initial log-in, click the “In Progress” box to access your previous work.

Letters of Intent and Proposals (Preliminary, Full, and Renewal)

What would you like to work on?

Prepare New
- Letter of Intent
- Preliminary Proposal
- Full Proposal
- Renewal Proposal
- Accomplishment Based Renewal

In Progress
- Continue working on a previously prepared letter of intent or proposal that has not yet been submitted to the NSF

Submitted and Updates
- View or download a submitted letter of intent or proposal
- Perform a Proposal Title Update
- Rejection on a submitted proposal

c. Next, select the relevant NSF solicitation, i.e. the Advanced Technological Education. Note that funding opportunities are listed by solicitation number. The current ATE number is 21-598 (list begins with the most recent NSF solicitation publications, so there are many pages to scroll through to locate the ATE solicitation). An updated ATE solicitation will be released in summer 2022. Look for this version and use it as soon as it is available!
d. Now you will see a verification screen. Make sure that Advanced Technological Education is listed for the Solicitation and for the Program. If so, everything else on this screen will also be correct. If not, use the “previous” button and make the correction.

![Prepare New Full Proposal](image)

**Where to Apply**

```
Conform Where to Apply

0 Additional programs, including those that are not identified in the funding opportunity, can be added once the proposal is created.
```

Your proposal will be directed to the following NSF program. Click ‘Next’ to continue.

- **Funding Opportunity**
  - NSF 21-516 - Advanced Technological Education

- **Directorate/Office**
  - Direct For Education and Human Resources (E-HR)

- **Division**
  - Division of Undergraduate Education (E-UG)

- **Program**
  - Advanced Tech Education Program

**PREPARING THE FORMS FOR YOUR NSF ATE PROPOSAL**


e. On the next screen, you will select the Proposal Type. Select Research. All ATE proposals are designated as “Research,” as these proposals are considered applied educational research.

f. The following screen asks for additional proposal details. Most of you will indicate that you are developing a single proposal. You will also provide the proposal title. Make certain that the title 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 as you complete your proposal, the title can always be edited.

g. When you click the Prepare Proposal button, a “control” page will appear as shown below. You will provide information for all items except the last one, which is for postdoctoral students. These are hot links, so when you click on the name of an item, the link will take you to the form for that item. Under “Compliance Status,” the words “Form not checked,” mean that this proposal component is a form that is going to be completed within the Research.gov site. “Document unavailable for check,” indicates that this component is a document that you create and upload. When you upload a document, compliance information on that item is automatically provided. The center column shows the date you last updated it. Note: except with Supplemental Documents, you may upload only one file for each section of the proposal, and that the maximum file size is 10MB.

This tutorial will take you through all items that you need to complete, except the budget and the budget justification, which were covered in a separate webinar. (The recording and the tutorial are available in the Mentor-Connect resource library.)
Start preparing your proposal by clicking on the Cover Page hot link on the navigation page. It provides NSF with administrative details and data that are required for a proposal:

- **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. You may choose other start dates, but it should be on the first day of the month. Note that requesting an earlier start date will have no impact on when your grant award is made. You can’t speed up the funding process by requesting an earlier start date!

The duration of an ATE project can be either two or three years. Mentor-Connect recommends that you request 3 years (36 months). This gives you maximum flexibility. If you conclude your work in less than 36 months, you can close out the grant early.
Primary place of performance
On the next screen, enter the requested information if the project work will be carried out at a different location from that of the “prime organization” (i.e. the awardee organization) listed in the last section.

Other information
The question under Human Resources about Institutional Review Board (IRB) approval applies to all ATE grant applicants. (The other questions will not be relevant to most of you). Mentor-Connect recommends indicating that this review is pending, unless your proposal was reviewed by an IRB and a determination letter was issued prior to proposal submission. Note that an IRB determination letter will be required before NSF can award a grant. Submit your proposal for IRB review while it is being considered at NSF.
IRB requirements and language about IRBs can be confusing. Being exempt does not mean that no IRB review is required. It takes one level of IRB review by the IRB chair to determine if you are exempt. 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 will kick in.

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 and subsection 46.104(2) that 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 can 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
- a sample determination letter that is required from that review

It is not essential to respond to every question on the Cover Sheet. You will see questions in other sections that are not applicable to ATE proposals. For example, one section applies only to prospective grantees that are not colleges or universities. Another is an inquiry about submission of the same proposal to another government entity - not something that community colleges are likely to do.

When you have completed your cover sheet, you will be able to rely on an effective auto-check system that prevents you from omitting critical information. If anything is missing, you will see a message like those below when you attempt to save it. If the cover sheet is complete, you will see a message saying that it has been saved.

On the following two pages, you will see what 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./Closing Date:**
- NSF 14-577
- 10/08/15

**Due - ATE-Projects**

<table>
<thead>
<tr>
<th>Date Received</th>
<th>Number of Copies</th>
<th>Division Assigned</th>
<th>Fund Code</th>
<th>DUNS#</th>
<th>File Location</th>
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<tbody>
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<td>1</td>
<td>11040000 DUE</td>
<td>7412</td>
<td>06716311</td>
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**Employer Identification Number (EIN) or Taxpayer Identification Number (TIN):**

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<thead>
<tr>
<th></th>
<th>Show Previous Award No. If This Is</th>
<th>Is This Proposal Being Submitted to Another Federal Agency?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ a renewal</td>
<td>□ yes</td>
</tr>
<tr>
<td></td>
<td>□ an accomplishment-based renewal</td>
<td></td>
</tr>
</tbody>
</table>

**Name of Organization to Which Award Should Be Made:**

Galveston College

**Address of Awardee Organization, Including 9 Digit ZIP Code:**

Galveston College

4015 Avenue Q

Galveston, TX 77507-447

**Name of Primary Place of Perf:**

Galveston College

**Address of Primary Place of Perf, Including 9 Digit ZIP Code:**

Galveston College

4015 Avenue Q

Galveston, TX 77507-447

**IS Awardee Organization (Check All That Apply):**

- Small Business
- Minority Business
- Woman-Owned Business
- If This Is a Preliminary Proposal

**Title of Proposed Project:**

Engineering Technology Instrumentation Project

**Requested Amount:**

$186,980

**Proposed Duration (140 Months):**

36 months

**Requested Starting Date:**

09/01/16

**PI/PO Name:**

Robert Shields

**Co-PI/PO Name:**

Laimutis Bytutis

**PI/PO Fax Number:**

409-944-1500

**PI/PO Address:**

galveston, TX 77507-447

United States

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**Preparing the Forms for Your NSF ATE Proposal**

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Page 1 of 3
The second page of the cover sheet shows the required college certifications. Note that the Authorized Organizational Representative (AOR) is the only individual who may sign this certification page.

<table>
<thead>
<tr>
<th>CERTIFICATION PAGE</th>
</tr>
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<tbody>
<tr>
<td><strong>Certification for Authorized Organizational Representative (or Equivalent)</strong></td>
</tr>
<tr>
<td>By electronically signing and submitting this proposal, the Authorized Organizational Representative (AOR) is: (1) certifying that statements made herein are true and complete to the best of his/her 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 application. Further, the applicant is hereby providing certifications regarding conflict of interest (when applicable), flood hazard insurance (when applicable), responsible conduct of research, and organizational support as set forth in the NSF Proposal &amp; Award Policies &amp; 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, §1001).</td>
</tr>
<tr>
<td><strong>Certification Regarding Conflict of Interest</strong></td>
</tr>
<tr>
<td>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 IXA; and that, to the best of his/her 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 organizations expenditure of any funds under the award, will be, satisfactorily managed, reduced or eliminated in accordance with the organizations 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 in FastLane.</td>
</tr>
<tr>
<td><strong>Certification Regarding Flood Hazard Insurance</strong></td>
</tr>
<tr>
<td>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:</td>
</tr>
<tr>
<td>(1) community in which that area is located participates in the national flood insurance program; and</td>
</tr>
<tr>
<td>(2) building (and any related equipment) is covered by adequate flood insurance.</td>
</tr>
<tr>
<td>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:</td>
</tr>
<tr>
<td>(1) for NSF grants for the construction of a building or facility, regardless of the dollar amount of the grant; and</td>
</tr>
<tr>
<td>(2) for other NSF grants when more than $25,000 has been obligated in the proposal for repair, alteration or improvement (construction) of a building or facility.</td>
</tr>
<tr>
<td><strong>Certification Regarding Responsible Conduct of Research (RCR)</strong></td>
</tr>
<tr>
<td>(This certification is not applicable to conference proposals.)</td>
</tr>
<tr>
<td>By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal &amp; Award Policies &amp; 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.</td>
</tr>
<tr>
<td>The AOR shall require that the language of this certification be included in any award documents for all subawards at all tiers.</td>
</tr>
<tr>
<td><strong>Certification Regarding Organizational Support</strong></td>
</tr>
<tr>
<td>By electronically signing the Certification Pages, the Authorized Organizational Representative 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.</td>
</tr>
<tr>
<td><strong>Certification Regarding Dual Use Research of Concern</strong></td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>Certification Regarding the Meeting Organizer’s Written Policy or Code-of-Conduct that Addresses Sexual Harassment, Other Forms of Harassment, and Sexual Assault</strong></td>
</tr>
<tr>
<td>(This certification is only applicable to travel proposals)</td>
</tr>
<tr>
<td>By electronically signing the Cover Sheet, the AOR is certifying that prior to the proposer’s participation in the meeting, the proposer will assure that the meeting organizer has a written policy or code-of-conduct that addresses sexual harassment, other forms of harassment, and sexual assault, and that includes clear and accessible means of reporting violations of the policy or code-of-conduct. The policy or code-of-conduct must address the method for making a complaint as well as how any complaints received during the meeting will be resolved. The proposer is not required to submit the meeting organizer’s policy or code-of-conduct for review by NSF.</td>
</tr>
<tr>
<td><strong>Certification Regarding Family Leave Status (or equivalent)</strong></td>
</tr>
<tr>
<td>(This certification is only applicable to career-life balance supplemental funding requests)</td>
</tr>
<tr>
<td>By electronically signing the certification pages, the Authorized Organizational Representative hereby certifies that the request for a technician (or equivalent) is because the (PhD.Ph.D) or postdoctoral research fellow(PhD) has met the requirements of the organization in accordance with the organization’s policies. The Authorized Organizational Representative also affirms that the organization is able to fill the position for which funding is being requested, in an appropriate timeframe.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>AUTHORIZED ORGANIZATIONAL REPRESENTATIVE</th>
<th>SIGNATURE</th>
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<tr>
<td><strong>Jennifer Mabry</strong></td>
<td>Electronic Signature</td>
<td>Apr 22 2022 8:40AM</td>
</tr>
<tr>
<td><strong>TELEPHONE NUMBER</strong></td>
<td>843-661-8129</td>
<td></td>
</tr>
<tr>
<td><strong>EMAIL ADDRESS</strong></td>
<td><a href="mailto:Jennifer.Mabry@futc.edu">Jennifer.Mabry@futc.edu</a></td>
<td></td>
</tr>
<tr>
<td><strong>FAX NUMBER</strong></td>
<td>843-661-8011</td>
<td></td>
</tr>
</tbody>
</table>

Page 2 of 2
**Project Data Form**

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

This is where you will choose the ATE funding track for your proposal from a dropdown menu. Most applicants who are developing their first ATE proposal will choose Small Projects for Institutions New to ATE. This is important information that guides everything from funding limits to how your proposal is placed for review.
The Project Data Form also asks for information about other organizations that will be involved in your project. The ATE Solicitation states: “Activities may have either a national or a regional focus, but not a purely local one as results and outcomes should be applicable to a broad community.” Partnerships can help you adhere to this ATE stipulation, and partners becomes increasingly important when you move from a Small Project for Institutions New to ATE to an ATE Project grant. List the organizations with whom you will collaborate. This may be one or more high schools, universities, economic development organizations, professional, or civic organizations. (Business and industry partnerships are also important but you will list them elsewhere.) Any organization listed here should provide a commitment letter in the Supplemental Documents to your proposal that outlines the ways it will contribute to the project.

It is important to select an appropriate discipline on the Project Data Form, since this will help determine how NSF selects the reviewers for your proposal.
You will provide several other types of information on the Project Data Form by checking the appropriate boxes in three categories:

**Project Features:** The first item on this list is Connections with Business and Industry. *Every ATE proposal should have this box checked.* If your project isn’t connected in some meaningful way with Business and Industry, it isn’t likely that your proposal will be successful. Explain these connections in detail in the Project Description.

Based on the focus and features of your project, you may be able to check additional boxes on this list. Just make certain that if you check a box, you have substantive information in the Project Description about that item.

**Private Sector Participation:** Business and Industry are private sector enterprises, so every ATE proposal should respond “yes” to this question.

**Audience(s):** Each group indicated must be discussed explicitly and substantively in the Project Description.

**Estimated number of unique individuals involved over all years:** Select those who will be involved with or impacted by your project, and estimate the total number in each category. Be sure to explain their involvement and how they will benefit in the Project Description.

If you are working only with faculty, include the number students those faculty will impact in some way because of your project. Keep notes about how you determine the numbers you report. Prospective grantees may be asked about this during the negotiations with NSF that often take place prior to recommending your proposal for an award.
Develop your Project Summary as a separate, 1-page document that will be uploaded as a pdf or equivalent file. The Project Summary must consist of three components. Each component must have a heading on its own line, with no other text on that line: Overview, Intellectual Merit, and Broader Impacts.

The Overview is a description of the activity that will result if your proposal is funded and a statement of the methods to be used. Clearly indicate in the first few sentences: the disciplinary focus of the project, the kinds of activities proposed (i.e. curriculum adaptation, professional development for educators, etc.), and the primary audience for those activities. Explain your proposal’s objectives and what you will do to achieve those objectives. If this is all someone reads about your project, they should be able to understand what you are trying 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 amount of money that you are requesting.) Note that NSF uses this information to assign the proposal to a panel for review.

Broader Impacts should describe the potential of the proposed activity to benefit society. Intellectual Merit should describe the potential of the proposed activities to advance knowledge. Study the criteria provided in ATE Program Solicitation and 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.

The Merit Review Principles and Criteria section in the ATE Program Solicitation gives the following examples of questions that your proposal can address with respect to Intellectual Merit and Broader Impacts. Intellectual Merit: Does the project have the potential for improving student learning in science or engineering technician education programs? Are the goals, objectives, and outcomes and the plans and procedures for achieving them worthwhile, well-developed and realistic?
Broader Impacts: Has an assessment of workforce needs for technicians been conducted? Does the project work with employers to address their current and future needs for technicians? Does the project promote diversity in the technical workforce?

**Project Description**

Develop your Project Description as a separate document of no more than 15 pages. You may upload it as a pdf file or as a Word document, which Research.gov will convert to pdf. Converting before uploading reduces the risk of formatting errors.

The proposal must begin with a section titled **Results from Prior NSF Support**. For a New-to-ATE small grant where PI/Co-PIs have no previous grant experience, you are not expected to show results of prior support; however, do not leave this section blank. State that, if funded, this will be your first ATE grant. It is also relevant to NSF to note here if you are a participant in the ATE-funded Mentor-Connect project or any another ATE-funded initiative that assisted you as you prepared your proposal.

If senior personnel have served on other types of NSF grants for your institution or have served at other institutions as PIs or Co-PIs on NSF-funded projects with end dates in the past five years, information about those projects must be reported here. Identify such project personnel and provide the name(s) of the institution(s) that received the award(s), name(s) and award number(s) of the project(s), a description of the outcomes, and metrics that demonstrate results. Make sure that the grantee institution is current with required NSF reporting, since an overdue report will prevent your own institution from receiving NSF grant awards.
NSF also recommends that you include in this section information about other recent grants received by the college, if they relate to the proposed work, even though the section heading refers to NSF support.

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 on the project’s motivating rationale, goals, objectives, deliverables, and activities, intellectual merit and broader impacts – as well as incorporating 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 dissemination plan - ALL IN 15 PAGES!

Issues related to Intellectual Merit are discussed in appropriate sections of the Project Description and need not be separately labeled, but Broader Impacts must be addressed in a separate section with the heading Broader Impacts on its own line.

The Evaluation Plan must also be a separate section of the Project Description. It 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, both to assess the work of the project and to improve it. If you are able to 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 on developing evaluations plans for ATE proposals, see the Mentor-Connect resource library.

Reviewers typically evaluate 10-12 proposals - they appreciate readability.
- Avoid packing your pages too tightly with text. Use informative section headings and summarize information in bulleted lists and charts. Note that a Logic Model is an excellent way to summarize information about inputs and outcomes. (Remember that visuals must be included in the 15-page limitation.)
- All reviewers will receive electronic copies of your proposal, and many will print it in black and white. Avoid color as well as shading that does not print well.

Do not include URLs or hyperlinks that ask reviewers to leave the description to view an external site. Reviewers are not obligated to view such sites, and including such external information could be seen as circumventing page limitations. In addition, the sites could be altered or removed between submission and review of your proposal.

Research.gov will enter page numbers in your Project Description automatically. Do not number the pages! Once your Project Description is uploaded, print it to make sure that it follows the rules for page limits, margins, and formatting in the PAPPG. These are real rules, not guidelines, and if you break any of them your proposal can be returned automatically without being considered.

Remember that Appendices are not allowed. You will see a place to upload Supplementary Documents, but only Letters of Collaboration and the evaluator’s biosketch or criteria for evaluator selection if to be selected via bid process may be uploaded here.
Reference citations are essential! They document the sources of data/information you provide as you 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. NSF encourages both adaptation and adoption of strategies and work undertaken in other funded projects. Cite references to sources of data and to work that led you to select a particular strategy, curriculum, teaching methodology or other promising or proven approaches.

Follow standard accepted scholarly practices (e.g., APA, MLA) for listing references. Avoid the use of et al. (except for large consortia papers)

As you include information from your research in your Project Description, manually number your references. Then prepare the separate References Cited document with citations that correspond to those numbers. If you use automated endnotes, the references will be included in your 15-page project description. You can put that space to better use! Note that if you did use automated endnotes, you would still need to complete the References Cited form - needless duplication.
Senior Personnel Documents

Three separate documents are required from all senior personnel: A Biographical Sketch, a Current and Pending Support form, and a list of Collaborators and Other Affiliations.

Biographical Sketches

Biosketches are required for each individual identified as senior personnel (including PIs and Co-PIs). This is something you can work on very early as work on other parts of your proposal progress. For consistency, you may want to designate one person to check and upload all biosketches.

- Two biosketch formats are available at https://www.nsf.gov/bfa/dias/policy/biosketch.jsp. Mentor-Connect recommends that you use the NSF Fillable PDF form, which is best suited for ATE proposals.
- If you have submitted biosketches previously, you will see that the required information is the same, but that the format has changed and that the page limit has increased from two to three pages.

NSF requires a very specific information for the biosketches – see the overview below and consult the PAPPG for detailed information. Do not include personal contact information.

- Professional Preparation: Names and locations of undergraduate, graduate, and post-doctoral institutions (as applicable), in reverse chronological order. For each institution, provide location, major discipline, degree, and the year the degree was awarded.
- Appointments: All academic and professional appointments, with dates, beginning with current employment.
- Products:
  - The form has two sections for products (including publications); one for up to 5 products that are closely related to the proposed project and one for up to 5 other significant products, whether or not related to the proposed project. Only these ten items will be used in the review of the proposal.
  - Acceptable products must include full citation information and be accessible to reviewers. (Examples include, but are not limited to, publications, data sets, software, patents, and copyrights.) Do not include unpublished documents or invited lectures.
- Do not be concerned if you have no products to list. They are not an ATE requirement. This biosketch format was created to also serve the needs of the research community applying for NSF funding, where products and publications are expected.

- Synergistic Activities
  A list of up to five examples that demonstrate the broader impact of an individual’s professional and/or scholarly activities, as they relate to the proposed activities. This is the place to list relevant skills and assets, such as:
  - Innovations in teaching and training – development of curricular materials and pedagogical methods
  - Broadening the participation of groups underrepresented in STEM
  - Service to the scientific/engineering community outside of the individual’s immediate organization, such as being a subrecipient of an ATE Centers grant or working with other ATE projects as a primary partner
  - Membership in a professional society (if it relates to the proposed grant activities)

**Current and Pending Support**

The Current and Pending Support form shows NSF how much Senior Personnel time is committed, or will be committed, to funded projects and other obligations. This helps Program Officers determine the capacity of each individual to take on the proposed scope of work if the project is funded.

All proposals must therefore include Current and Pending Support information for each person serving as Senior Personnel. For many New-to-ATE projects, this will include only the PI and Co-PI(s), while larger projects usually have additional Senior Personnel.

Anyone working on the grant in a Senior Personnel role who is paid by your college from grant funds, even if the person is not an employee of the college, must submit a Current and Pending Support form. It provides information about each person’s current projects, projects for which funding is pending (including the proposal you are now preparing), any projects that are planned for the near future, and any in-kind obligations that require time allocations. The reporting must include projects supported by all funding sources, not just by NSF.

Two different versions of the form may be accessed at [https://www.nsf.gov/bfa/dias/policy/cps.jsp](https://www.nsf.gov/bfa/dias/policy/cps.jsp). Mentor-Connect recommends using the fillable PDF form (see the header below) below, which is more appropriate for ATE proposals. Note that each form can accommodate up to 10 projects or proposals and up to 15 in-kind contributions. Follow the guidelines regarding what information to provide.
Note that:

- The proposal you will submit in October is “pending.”
- The award number applies only to current awards.
- Typical sources of support include the NSF, Department of Labor, US Department of Education, a state government, or a foundation.
- The project location is the grantee location. If someone on your team is working on a funded project not based at your college, they will list that location.
- The start and end dates are proposed dates for pending projects and actual dates for current projects.
- The total award amount is the total budget requested or previously awarded.
- Person-months per year committed to the project requires careful calculation. Those who work on a grant are expected to either be paid directly by the grant or released from a portion of their workload. Person months may be reported to 2 decimal places. Time is prorated and reported based on the total portion of the year dedicated to grant work. See below for more information.
- The overall objectives of the reported project should be a brief statement that explains how it will achieve its goals.
- Potential overlap only applies to subsequent and/or multiple grants. If this is your first ATE proposal, this can be left blank.
For additional information about the Current and Pending Support Form, see the Research.gov hotlink to the relevant section of the PAPPG.

Person-months is the category in which most mistakes are made. Remember to provide the full-time equivalent months (person-months) that personnel will dedicate to the project, not the number of months during which they will devote some portion of time to the project.

Three different scenarios may help clarify this reporting method:

1. A 12-month employee devotes 10% of his time (10% FTE) to the project each year. Ten percent of 12 months is reported as 1.2 calendar months. (Note: part-time work during 12 months is not reported as working 12 months on the project.)

   | *Person-Month(s) or Partial Person-Months* | *Committed to the Project* |
   | Year (YYYY) | Person Months (#.#) |
   | 1. 2021 | 0.10 |
   | 2. 2022 | × |
   | 3. 2023 | 0.10 |

2. A faculty member has one-course release time for fall and spring each year. The normal full-time teaching load is five courses. If the academic year is 9 months, the release time is reported as 1.8 months (1/5 - or 20% - of 9 months).

   | *Person-Month(s) or Partial Person-Months* | *Committed to the Project* |
   | Year (YYYY) | Person Months (#.#) |
   | 1. 2021 | 0.18 |
   | 2. 2022 | 0.18 |
   | 3. 2023 | × |

3. A faculty member has one-course release time fall and spring semesters each year and works ½ month in the summer in Project Years 1 and 2 only. The summer work of 0.5 months is added to 1.8 months release time in Years 1 and 2, making the total person-months for those years 2.3.

   | *Person-Month(s) or Partial Person-Months* | *Committed to the Project* |
   | Year (YYYY) | Person Months (#.#) |
   | 1. 2021 | 0.30 |
   | 2. 2022 | 0.30 |
   | 3. 2023 | 0.18 |

Include time commitments for any unpaid project work. All projects or activities requiring a portion of Senior Personnel time must be included, even if they provide no salary support. Beware, however, of having personnel donate large amounts of time to your ATE project. Reviewers may not believe that the scope of work will be completed if it relies on significant amounts of donated time. Never attach a monetary value to donated time, or it will be considered voluntary cost sharing, which is prohibited by the ATE Program.

Ensure that the time allocated to your ATE project is reasonable for the scope of work, carefully aligned with each person’s responsibilities, and consistent with information provided elsewhere in the proposal, particularly in the budget. All grant-supported time must be carefully justified. Reviewers expect to see your personnel included in the budget with compensation for time they devote to grant work.
Note that faculty time on ATE grants is not limited to two person-months, as in many other NSF programs. It would, however, be wise to ask the advice of a program officer if you plan to allocate significantly more faculty time to your project.

Until recently, the ATE Program did not allow faculty overload. Since 2017, however, overload has been permitted to the extent that it is part of formal written college policy that applies to all faculty (not just those working on grants). The Budget Justification must explain any overload pay being budgeted and reference the applicable college overload pay policy. See the solicitation for more specific information.

**Collaborators and Affiliations**

This form is designed to help NSF Program Officers avoid conflicts of interest when placing proposals for panel review. Have all senior personnel use the template on the NSF website (https://nsf.gov/bfa/dias/policy/coa.jsp) to list relevant collaborators and affiliations. It is unlikely that they will have information to submit in all five categories listed: individuals; personal, family, or business affiliations; Ph.D. and thesis advisees; co-authors; and editorial affiliations. Even senior personnel who have no information to submit must still provide the form, indicating that none of the categories are applicable. The relevant time frame for the collaboration for each category of collaborator is specified, ranging from 12 to 48 months.

**Facilities, Equipment and Other Resources**
This form is used to assess the adequacy of the resources, such as infrastructure, laboratories, and equipment, available to support your proposed project at the home institution and elsewhere. The information should be narrative and focused on items and personnel directly supporting the proposed project. If a category does not apply to your project, note on the form that it is “not applicable.” (The Clinical and Animal categories, for example, typically do not apply to ATE-funded projects.) Some examples of items to include:

- **Laboratory:** If lab support is important for your project, describe your current capability even if the proposal calls for improvements or additional equipment.
- **Computer:** Describe computer capabilities that are essential for your project.
- **Office:** Grant budgets may not include office furnishings or standard equipment like computers, copiers, and other items that support normal office operations. Make it clear that such resources will be available. Office space, administrative support, and similar resources should also be reported here.
- **Other:** Describe resources other than facilities and equipment, such as 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 monetary value to it in order to avoid having it seen as cost-sharing.
- **Major Equipment:** This can be an important category for some ATE grants, since advanced technology programs are often equipment-intensive. If your project will be dependent on major equipment, this is the place to describe it, whether it belongs to your college or a collaborating institution or industry.

### Data Management Plan

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<td>Manage Personnel and Subaward Organizations</td>
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The Data Management Plan is a requirement for all NSF proposals. It is a supplementary document of no more than two pages. Use this form to describe how the project will conform to NSF policies regarding the dissemination and sharing of results.

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

See below for a good example, provided by Asheville-Buncombe Technical Community College. Additional examples are available in the Mentor-Connect resource library (http://library.mentor-connect.org). NSF also provides a detailed FAQ on data management plans: Dissemination and Sharing of Research Results | NSF - National Science Foundation.

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. Participants 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.
Supplementary Documents

The ATE Program requires the following Supplementary Documents. (Note that they are NOT optional for ATE proposals, despite the heading under which they appear above.) Supplementary Documents may be uploaded separately.

- **Letters of Collaboration** from industry, education partners, or others must document significant commitments to the project. Many NSF programs consider such letters optional, but ATE requires them. This is one instance where PAPPG information differs from that in the ATE Solicitation. *Use the Solicitation for guidelines regarding the format of these letters!*

- The ATE Program requires that all letters of collaboration make specific commitments of support for project activities. Letters that merely endorse the project or offer nonspecific support may cause the proposal to be returned without being reviewed. You may suggest content topics, but do not provide boilerplate letters for the writers to use or adapt. This will be obvious to reviewers and will raise questions about the extent of the 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 larger projects, a letter of commitment from the president or other appropriate college administrator outlining specific college commitments to the project is also appropriate.

- **Biographical Sketch for the external evaluator**, if that person is named in the project description. If your college requires that the evaluator be selected through a competitive bid process, you should include the hiring qualifications that will be used.

*Important:* Only Letters of Collaboration and the evaluator’s biosketch (or hiring qualifications) may be included as Supplemental Documents. Proposals that include other documents in this section will likely be returned automatically without being reviewed.
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 – your mentors and the Mentor-Connect team are here to help. No question is too trivial. You can reach our help desk at Mentor-Connect@fdtc.edu or 843 676 8541.
- 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. Select Webinars in the Resource Library and enter Coffee Breaks in the search engine for several short presentations related to the forms.
- Make use of the Research.gov help desk.

Contact Us

For general questions about Research.gov, please see our Frequently Asked Questions.

For technical questions or immediate assistance, please contact the NSF Help Desk

7 AM - 9 PM Eastern Time, Monday through Friday (except for federal holidays):

- Email the Help Desk at: rgov@nsf.gov
- Call the Help Desk at 1-800-381-1532
- To give feedback or comments, see the feedback page.

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