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 2020 and available as a recording in the Mentor-Connect resource library, http://library.mentor-connect.org.

It is easy to underestimate the time it takes to fill out the forms! In addition to the project description, summary, and budget information, you will be submitting the forms shown below. Some are several pages long.

The good news is that you can begin working on these forms early and have them ready long before the proposal is due. Doing so will not only leave you free to focus on the project description and the budget, but also give you the satisfaction of having your submission well under way.

The following pages will provide an overview of the information required in each of the forms, as well as the Project Description and Summary. The Budget and Budget Justification are covered in a separate webinar. The recording and a tutorial are available in the Mentor-Connect resource library.
Before you begin working on the forms (and on any other part of the proposal):

1. **Become familiar with:**
   The ATE Program Solicitation
   (The current version is dated 2018.)
   Read it carefully and have it accessible as you work on the proposal.
   
   **The Proposal and Award Policies & Procedures Guide (PAPPG)** The June 2020 version applies to your proposal. Be sure to study the Proposal Preparation section. The PAPPG also provides information about proposal processing and review and guidelines for administering funded projects.
   
   Be sure to use the current versions of both documents. (Older versions remain on line.) If any of the information is contradictory, always defer to the ATE Program Solicitation.

2. **Identify your Sponsored Research Office (SRO) & Authorized Organizational Representative (AOR)**
   https://www.nsf.gov/bfa/dias/policy/docs/esignfaq.jsp
   This is a college office/representative who:
   - Registers your college in Fastlane and thereby obtains your institutional Fastlane ID
   - Registers those individuals who will work on this or other NSF projects in Senior Personnel roles, appropriate Business Office personnel, and others authorized by the college who may need access to the grant proposal or other functions in the Fastlane system that are related to a grant proposal
   - Officially submits the proposal. (The PI initially submits the completed proposal. The FastLane system then sends it to the AOR who checks it for completeness, provides the official electronic signature on behalf of the college, and submits it to NSF.)

3. **Register in FastLane**
   Your AOR will register the college and the relevant personnel. They can then log in with temporary passwords set by the AOR and set their personal passwords. See Registration Information on the FastLane home page, http://www.fastlane.nsf.gov. You will see that FastLane is transitioning to Research.gov, and that some functions are now available only in Research.gov. (You will be moved to Research.gov automatically for these functions. This will be self-explanatory once you are in Fastlane.) If you have questions, help is just a phone call away. See the Fastlane User Support information in the above slide.
   
   Many college grant writers are accustomed to submitting grants to federal agencies through Grants.Gov (not to be confused with Research.gov) rather than Fastlane. For ATE grants, Fastlane is definitely preferable since it ensures that all required forms are accessible and that your proposal will be received by NSF immediately after it is submitted. Grants.gov does not support all required NSF forms and does not enforce NSF grant deadlines, which can result in a late submission and return of a proposal without review.

4. **Decide who will be responsible for inputting proposal information/content in the FastLane system.** (This is usually either the PI or the grant writer.) Remember that all forms and proposal content can be “parked” in FastLane for later completion or revision! Content can be uploaded, replaced, or edited continuously prior to submission. Nothing is final until the AOR hits “submit.”
Accessing the forms:
- In FastLane, click on Proposals, Awards and Status.
- Log in, go to Prepare and Submit Proposals, and click on Prepare Proposals in Fastlane.
- On the next screen, click on Prepare Proposal. If your proposal has been initiated in the system, you will see it on the screen under Temporary Proposals in Progress. Select it and click Edit. If it has not yet been initiated, go to Create New Proposal, then click on Create Blank Proposal. Both routes will take you to the Form Preparation page, shown below in two parts.

![Form Preparation Page](image)

All forms listed above must be included in your proposal. (Note that the budget is covered in a separate webinar and tutorial.) The Form Preparation page also lists the documents shown below. Unless other documents are relevant to your proposal, ATE grants only requires you to submit the following:
- Single Copy Documents: Collaborators and Other Affiliations
- Supplementary Documents:
  - Data Management Plan
  - Other Supplementary Documents:
    - A list of people who will receive funds from the project
    - Letters of Collaboration
    - A biographical sketch for the external evaluator, if mentioned by name in the proposal

Click on some of the **GO** buttons to become familiar with the forms. Note that some forms will be filled out online by the person responsible for FastLane input, while work on other forms may be delegated since they will be uploaded files. Remember that you may make changes until your college AOR submits the final proposal. The date on which you save each form will appear on the Form Preparation page, so you can easily keep track of your progress. Begin as soon as possible!
**Cover Sheet**

The Cover Sheet is where you will identify your institution and the NSF program to which you are applying. Note that it allows you to select the Advanced Technological Education Program, but not the Small Grants for Institutions New-to-ATE funding opportunity within that program. If you are applying for New-to-ATE funds, make note of this in your Project Summary to ensure that your proposal will be reviewed in that category.

Be sure to enter your campus location as the primary place of performance if it is different from that of the awardee organization.

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**Important:** Select ATE Projects as your Program Track in the next section. This will bring up all relevant additional forms. (For this purpose, all ATE proposals, including those submitted as Small Grants for Institutions New to ATE, are considered ATE Projects.)
The Cover Sheet will ask for the following additional information:

- **Title**: Provide a meaningful and concise title that conveys the focus of your project.
- **Requested Amount**: If you are applying for a Small Grant for Institutions New to ATE, ensure that your budget request, including indirect costs, does not exceed the maximum ($300,000) noted in the program solicitation. A larger request will automatically move your proposal from the Small Grants category into one that is far more competitive.
- **Duration**: Request the maximum allowable time, 36 months, even if you expect to finish sooner. Delays happen! Be sure to allow time for your final evaluation once the work is completed.
- **Start date**:  
  - You may select your own start date, but be aware that it can take up to nine months from the submission date until an award is granted.  
  - Determine whether your institution requires or prefers your project to operate on a specific calendar, such as academic year or a fiscal year. This may guide your selection of a start date.  
  - Your start date is firm. Do not expect to be able to change it if your proposal is funded.
- **Checklist**: In the list that follows the start date (“THIS PROPOSAL INCLUDES ....”), the sample cover sheet on the next page has checked the selections appropriate for most proposals in the Small Grants for Institutions New to ATE category. Note that:  
  - If you are a first-time Principal Investigator, you should select Beginning Principal Investigator  
  - Your funding mechanism should be RESEARCH- other than RAPID or EAGER.

**Important:**

- The second page of the cover sheet requires certification that  
  - the statements made in the proposal are accurate  
  - your institution is in compliance with specific NSF requirements

- When the proposal is ready to submit, the AOR (not the PI!) must do so by signing the last page of the cover sheet (using an automated electronic "signature"). Proposals submitted without this signature will be returned without review.

<table>
<thead>
<tr>
<th>AUTHORIZED ORGANIZATIONAL REPRESENTATIVE</th>
<th>SIGNATURE</th>
<th>DATE</th>
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</thead>
<tbody>
<tr>
<td>Sandra Metoyer</td>
<td></td>
<td>Oct 8 2015 1:50PM</td>
</tr>
<tr>
<td>Telephone Number: 409-944-1288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Address: <a href="mailto:smetoyer@gc.edu">smetoyer@gc.edu</a></td>
<td></td>
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<tr>
<td>Fax Number: 409-944-1500</td>
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</tbody>
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Once you have provided all the information, your cover sheet will be generated automatically. The first page will look similar to the one below.
Project Data Form

This form provides information about the discipline, the submitting institution, other participating institutions, and the populations that will be impacted.

**Item 4:** Be sure to list all other institutions, industries, or agencies that are directly involved in the project. Reviewers view these collaborations positively.

**Items J-N:** Reviewers will compare the total cost of your project with the number of people it will impact. Do not under-report these numbers!

If your participants are teachers, you are not only impacting them, but also their students.

For example, assume that a workshop for 20 high school teachers, conducted at the end of Year 1, will result in each teacher using workshop materials in eight classes per year.

During the remaining two years of the project, that one workshop can impact about 4,000 students per year, assuming an average of 25 students per class, or a total of 8,000 students.

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NATIONAL SCIENCE FOUNDATION  
Division of Undergraduate Education  

NSF FORM 1295: PROJECT DATA FORM

The instructions and codes to be used in completing this form are provided in Appendix II.

1. Program-track to which the Proposal is submitted: ATE-Projects
2. Name of Principal Investigator/Project Director (as shown on the Cover Sheet):
   Shield, Robert
3. Name of submitting Institution (as shown on Cover Sheet):
   Galveston College
4. Other Institutions involved in the project’s operation:

<table>
<thead>
<tr>
<th>Institution Name</th>
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</tbody>
</table>

**Project Data:**

A. Major Discipline Code: 58
B. Academic Focus Level of Project: LO
C. Highest Degree Code: A
D. Category Code: K
E. Business/Industry Participation Code: PSP
F. Audience Code: WMH
G. Institution Code: PUBL
H. Strategic Areas Code: 
I. Project Features: 1 4 5

Estimated number in each of the following categories to be directly affected by the activities of the project during its operation:

J. Undergraduate Students: 67
K. Pre-college Students: 9
L. College Faculty: 4
M. Pre-college Teachers: 0
N. Graduate Students: 0

NSF Form 1295 (10/98)
**Table of Contents**

FastLane will generate this form for you – no need to enter any information. It will look something like this:

<table>
<thead>
<tr>
<th>Section</th>
<th>Total No. of Pages</th>
<th>Page No.* (Optional)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Sheet for Proposal to the National Science Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Summary (not to exceed 1 page)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Table of Contents</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Project Description (including Results from Prior NSF Support) (not to exceed 15 pages) (Exclude only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>References Cited</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biographical Sketches (Not to exceed 2 pages each)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Budget (Plus up to 3 pages of budget justification)</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Current and Pending Support</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Facilities, Equipment and Other Resources</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Special Information/Supplementary Documents (Data Management Plan, Mentoring Plan and Other Supplementary Documents)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Appendix (List below.)</td>
<td></td>
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<tr>
<td>(Include only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)</td>
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<tr>
<td>Appendix Items:</td>
<td></td>
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</table>

- Note that the ATE Program does not allow Appendices.

*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is number in consecutively.
Project Summary

The summary page has three components:

**Overview**: Provide a brief, self-contained description of what your project will accomplish if it is funded and a statement of objectives and methods. Note the project’s disciplinary focus and your primary audience. (Do not include background information about your college or its service area.) Clarity is important! NSF will use this information to assign the proposal to reviewers who have appropriate expertise. It is helpful to identify the funding track with a statement similar to “This Small Grant for Institutions New to ATE proposal will support...”

**Intellectual merit**: Explain the potential of the project to advance knowledge. (For example, how the project will improve student learning and technician education)

**Broader impacts**: Explain the potential of the project to benefit society. (For example, how the project will support workforce needs or generate models or strategies useful to others.)

For specific guidelines, see Merit Review Principles and Criteria in the ATE Program solicitation and Merit Review Criteria in the PAPPG.

**Important:**
- Your proposal will be rejected *automatically* if you submit it without a project summary, if the project summary does not address each of the three categories, or if you exceed the allowable characters.
- The combined text for all three components must fit on one page, may be no more than 4,600 characters, *including spaces*, and must adhere to same font requirements as the project description.
- This form does not allow uploading of Word documents or pdf files. You will minimize errors if you develop your responses in a Word document and cut and paste each section into the form, instead of writing directly on the form. Be sure to check the character count after cutting and pasting, since the Fastlane system can change the spacing when your document is saved.
- Avoid apostrophes, bullets, or other special characters. They will be converted into unintended symbols, like dollar signs. If - and only if - your Project Summary must include special characters, such as mathematical symbols or Greek letters, you may upload it as a Supplementary Document. (This requires you to mark the “check here” box at the top of the form. Remember that all specified guidelines, including the character limits, still apply.)
- Print and scrutinize the completed form to make sure that the formatting is correct, that the text appears as intended, and that you have not exceeded the character or page limit.

**Useful tips:**
- This is your opportunity to interest the reviewers in your proposal and make them want to read more. Make the most of it!
- Consider the Project Summary your “elevator speech.” If this summary is all that people read about your project, will they understand what you propose to do, how you will do it, and your desired outcomes?
Project Description

Develop your Project Description as a separate document, and upload it to FastLane by clicking on the Project Description form and following the directions in the box that looks like the one below.

You may upload the Project Description as a Word document, which FastLane will convert to pdf, or as an already converted pdf file. Converting before uploading reduces the risk of formatting errors, but you will still need to check carefully for any formatting changes after uploading.

This 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.

- The proposal must begin with a section titled “Results from Prior NSF support.” For a new-to-ATE small grant, begin this section by stating that, if funded, this will be your first NSF ATE grant. Results of prior support are not expected for those new to ATE. ATE does, however, encourage you to:
  - include information about other grants received by the college if they relate to the proposed work, even though the section heading refers to NSF support, and
  - note whether you are a participant in Mentor-Connect.

Note: If senior personnel 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. If a PI or Co-PI on your project has worked in a PI or Co-PI role on an NSF-funded project at another institution, be sure that the grantee institution is current with required NSF reporting. An overdue report from that institution will prevent your own institution from receiving NSF grant awards.

- Explain the project’s motivating rationale, goals, objectives, deliverables, and activities.
- Describe the roles and responsibilities of the PI, Co-Pis, and other senior personnel.
- Include a timetable, management plan, evaluation plan, dissemination plan, and plans for sustainability.
- Address the Intellectual Merit and Broader Impact criteria. Broader Impacts must be in a separate labeled section. Elaborate on the statements made in the Summary - do not copy and paste the same words!
- Note 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. The project description, including charts and graphs, may not exceed 15 pages, and margins must be at least one inch on all sides. Allowable fonts and minimum font sizes are Arial (not Arial Narrow), Courier New, and Palatino Linotype: 10 point; Times New Roman and the Computer Modern family of fonts: 11 point. Your text may not exceed six lines per inch. Write a sample paragraph, convert it to pdf (which shrinks the text), print it, and measure the lines per inch. If you have more than six lines per inch, your proposal can be rejected automatically, even if your Word document uses an allowable minimum font size.
- Appendices are not allowed. Use the Supplementary Documents only to convey allowable information. (See the guidelines below for Supplementary Documents.)

Useful tips:

- Reviewers receive 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. A Logic Model is an excellent way to summarize information about inputs and outcomes.
- Reviewers may print your proposal in black and white. Avoid color and shading that does not print well.
- Minimum font sizes can be difficult to read. Use a larger size if possible.
Avoid using automated endnotes. Instead, number your references manually and list them in the separate References section of the proposal. The References will not count toward your 15-page limit, whereas automated endnotes will become part of your 15-page project description.

NSF specifies that you may not include hyperlinks to websites that provide information relevant to your project. Reviewers are under no obligation to view them, and the sites could be altered or gone between submission and review. Providing such links is seen as circumventing page limitations.

Biographical Sketches

New rules for the biosketch format will be effective June 1, 2020. They will offer two options, which are currently available at https://www.nsf.gov/bfa/dias/policy/biosketch.jsp. Mentor-Connect recommends that you use the fillable PDF form, which is better suited for ATE proposals. While the format has changed, the information required in the biographical sketches remains unchanged. (For additional information about the 2020 changes in the PAPPG, see the NSF PowerPoint available at https://www.nsfpolicyoutreach.com/wp-content/uploads/2020/04/BS_CPS_SciENcv-Webinar.pdf.)

Senior Personnel: Biographical sketches are required for all senior personnel (PI, Co-PIs and other “senior personnel” who will lead the project). Include only the NSF-required information. (Do not, for example, add personal contact information.) Have one person upload all bio-sketches after checking them for consistency. Senior Personnel Biographical Sketches must include the components listed below.

- Professional Preparation
  Names and locations of undergraduate, graduate, and post-doctoral institutions (as applicable), in reverse chronological order. For each institution, provide major discipline, degree, and the year the degree was awarded.

- Appointments
  All academic and professional appointments, with dates, beginning with current employment.

- Products
  • A list of up to five products that are closely related to the proposed project
  • A list of up to five other significant products not necessarily related to the proposed project.

  A wide range of products may be included (publications, data sets, software, patents, copyrights, etc.), as long as they are accessible to reviewers and have full citations – authors’ names, titles, publishers, publication or release dates, and/or website URLs, as appropriate. Journal and book contributions require standard citations. Do not be concerned if you lack products or publications. This format was created to serve the needs of the research community where such products are more common.

- Synergistic Activities
  Up to five examples of professional and scholarly activities that focus on the creation, integration, and/or transfer of knowledge and reflect skills and experience required by the project.

Other Personnel: For other professionals, student research assistants, and postdoctoral associates, information about exceptional qualifications that are relevant to the proposal may be included in a single document. Identify it as “Other Personnel: Biographical Information” and upload it in the Other Supplementary Documents section.

Useful tips:

- Encourage all senior personnel to prepare their bio-sketches as soon as possible. Upload them early, so that this task is completed well before the deadline approaches.
Current and Pending Support

This form helps NSF Program Officers ensure that the senior personnel will have sufficient and dedicated time for the project, regardless of commitments to other ongoing or planned projects.

NSF expects that those who work on a funded project will be paid from the grant for all time dedicated to that project, or that they will be released from some of their normal work load in order to provide all or part of the time to be devoted to the project. They may also be paid with grant funds for project work when not normally under contract to their institution, such as during summer months.

All senior personnel must submit a Current and Pending Support form with information for each of their current projects, each project for which funding is pending (including the proposal you are now preparing), and any projects that are planned for the near future. This applies to all projects, regardless of the funding source.

This form will be updated as of June 1, 2020. Two different versions can be accessed at https://www.nsf.gov/bfa/dias/policy/cps.jsp. Mentor-Connect recommends using the fillable PDF form, which is more appropriate for ATE proposals.


<table>
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<tr>
<th>Projects/Proposals</th>
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<tbody>
<tr>
<td>1. *Project/Proposal Title:</td>
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<tr>
<td>*Status of Support:</td>
</tr>
<tr>
<td>Proposal/Award Number (if available):</td>
</tr>
<tr>
<td>*Source of Support:</td>
</tr>
<tr>
<td>*Primary Place of Performance:</td>
</tr>
<tr>
<td>Project/Proposal Start Date (MM/YYYY) (if available):</td>
</tr>
<tr>
<td>Project/Proposal End Date (MM/YYYY) (if available):</td>
</tr>
<tr>
<td>*Total Award Amount (including Indirect Costs): $</td>
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<tr>
<td>*Person-Month(s) (or Partial Person-Months) Per Year Committed to the Project</td>
</tr>
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</table>

<table>
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<tr>
<th>Year (YYYY)</th>
<th>Person Months (##,##)</th>
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</table>

Person-months is the category in which most mistakes are made. 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/her 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.)

<table>
<thead>
<tr>
<th>Year (YYYY)</th>
<th>Person Months (##,##)</th>
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<tbody>
<tr>
<td>2021</td>
<td>01.20</td>
</tr>
<tr>
<td>2022</td>
<td>✗ 01.20</td>
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<tr>
<td>2023</td>
<td>01.20</td>
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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).

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<th>Person Months (##,##)</th>
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<tr>
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<tr>
<td>2023</td>
<td>✗ 01.80</td>
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</table>

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.

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<tr>
<th>Year (YYYY)</th>
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<td>2021</td>
<td>02.30</td>
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<tr>
<td>2022</td>
<td>02.30</td>
</tr>
<tr>
<td>2023</td>
<td>01.80</td>
</tr>
</tbody>
</table>

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 NSF for the ATE Program.

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.

Ensure that 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 well justified.

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.
Facilities, Equipment and Other Resources

This form is used to describe the resources that will be utilized by the project at the home institution and elsewhere. Limit the description to 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.)

**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 be seen as in-kind contributions or 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.

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**FACILITIES, EQUIPMENT & OTHER RESOURCES**

**FACILITIES:** Identify the facilities to be used at each performance site listed and, as appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Use “Other” to describe the facilities at any other performance sites listed and at sites for field studies. USE additional pages as necessary.

| Laboratory: | Some professional workshop development activities will take place in various laboratory spaces in the nine identified program areas. Each of the labs for the nine programs contains equipment corresponding to that technology area. Most Engineering and Applied Technology labs are located. |
| Clinical: | Not applicable. |
| Animal: | Not applicable. |
| Computer: | In addition to any of the seven computer labs, averaging 20 computers each, located in the nine program area spaces, each of the Project Leadership Team and the administrative assistants for all program areas will utilize college-provide computers in their offices. |
| Office: | Office space for the Project Leadership Team and other associated A-B Tech employees is provided by the college (A-B Tech). Each office is equipped with office furniture, telephone, computers, and other office-related items. These offices are located in Balsam, Elm, and Dogwood buildings. |
| Other: | Professional development workshops will utilize computer labs (mentioned above) or space at A-B Tech’s Enka Campus. The Innovative Education Expo will be held in the Magnolia building on A-B Tech’s main campus in Asheville. |

**MAJOR EQUIPMENT:** List the most important items available for this project and, as appropriate identifying the location and pertinent capabilities of each.

Not applicable.

**OTHER RESOURCES:** Provide any information describing the other resources available for the project. Identify support services such as consultant, secretarial, machine shop, and electronics shop, and the extent to which they will be available for the project. Include an explanation of any consortium/unilateral arrangements with other organizations.

1) The South Carolina Advanced Technological Education (SC ATE) Center as well as CyberWatch ATE Center will provide professional development, project implementation assistance, as well as evaluation assistance.
2) Three area school systems will provide personnel and time for the Innovation Education Expo as well as other recruitment efforts. (see appendices for Statements of Intent to Participate).
3) Local industries identified in the Project Description as well as YWCA
**References Cited**

Reference citations are essential! They document the sources of data/information you provide as you build the rationale for your project. References demonstrate that you have done the research that enabled you to draw from or build upon relevant work.

Like most funding sources, NSF encourages the use of research-based strategies and the adaptation of work undertaken in other funded projects. Cite references to work that led you to select a particular strategy, curriculum, teaching methodology or other promising or proven approaches. Follow standard accepted scholarly practices. No specific format is required, but be consistent once a format is selected.

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**Useful tips:**

- As you include information from your research, *manually* number your references throughout the project description. Then prepare a separate document with citations that correspond to those numbers, and upload it to the References Cited form. If you use automated endnotes, the references will be included in your 15-page project description. You can put that space to better use, and reviewers do not like to see this since the endnotes duplicate the information in your References Cited form.

- Note that it is possible to enter the references directly on the form. However, it is always better to upload text than to enter it directly, since this gives you far better control of formatting. For the same reason, it is also better to upload pdf files than Word documents, even though FastLane will convert Word documents to pdf.
Data Management Plan

The Data Management Plan is a requirement for all NSF proposals. It is a supplementary document of no more than two pages. (A third page can automatically disqualify your proposal.) Use this form to describe how the project will conform to NSF policies regarding the dissemination and sharing of results. NSF expects you to share the outcomes of your work, and timely publication of results is encouraged. 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.

Your Data Management Plan should describe:

- The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project
- The standards to be used for data and metadata format and content
- Policies for accessing and sharing, including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements
- Policies and provisions for re-use, re-distribution, and the production of any derivatives
- Plans for archiving data, samples, and other research products, and for preserving access to them

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.

Useful tips:

- For frequently asked questions about data management, see https://www.nsf.gov/bfa/dias/policy/dmpdocs/ehr.pdf
- As with other documents, it is a good idea to upload your Data Management Plan as a pdf file and check the formatting carefully before and after uploading.
Supplemental Documents

The ATE Program requires the following Supplemental Documents:

- **A list of the names, roles, and affiliations** of everyone except Senior Personnel, participants and students who will receive compensation from the project. Ensure that the names are consistent with those identified in the budget and budget justification, the project description, and current and pending support forms.

- **Letters of Collaboration** from industry, education partners, or others that document significant commitments to the project. Many NSF programs consider such letters optional, but for the ATE program they are essential. The PAPPG and the ATE solicitation therefore have different requirements for these letters. Be sure to go by those in the ATE solicitation! **All letters must 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 wish to 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.

- **A biographical sketch for the external evaluator**, if that person is named in the project description.

**Important:** The inclusion of non-approved documents in this section will result in the proposal being returned automatically without being reviewed.

Supplementary documents may be uploaded as one or more files but may not exceed a total of 30 pages. Maximizing the number of pages will not help your proposal! Reviewers need concise information and few will read a large volume of supplementary material.

Remember that all supplementary documents except the letters of collaboration must adhere to the same font and page formatting requirements as the project description.

Single Copy Documents

- **Collaborators and Other Affiliations (COA)**
  All Senior Personnel must use a COA template ([https://www.nsf.gov/bfa/dias/policy/coa.jsp](https://www.nsf.gov/bfa/dias/policy/coa.jsp)) in order to provide information about work with relevant associates and organizations. If you have no collaborators or affiliations to report, state this in the template. The template’s content and format requirements may not be altered, and it must be saved as an .xlsx document that is directly uploaded into FastLane. It will automatically be converted to PDF, but uploading it in the .xlsx format will enable preservation of searchable text that would otherwise be lost.

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 FastLane.
- Don’t be afraid to ask questions – your mentors and the Mentor-Connect team are here to help, and no question is too trivial. You can reach our help desk at Mentor-Connect@fdtc.edu.
- Visit the Mentor-Connect resource library at [http://library.mentor-connect.org](http://library.mentor-connect.org) for examples of completed forms and other resources related to NSF ATE proposal submission.