
# Miller Welding Education and Training Systems

## Grant Assistance Tool

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NOTE: This Grants Kit is intended for use only with an authorized Miller representative.

# Miller Welding Education and Training Systems

Using such state-of-the-art training equipment is crucial to recruiting the next generation of America's weld operators. As the current baby boom workforce retires, potential workers are unqualified, unprepared and disinterested in their grandfathers' welding jobs.

Our industry needs qualified weld operators, but it faces multiple challenges. Educators with full classrooms struggle to personally observe and evaluate each student.

Together, we can meet these challenges. Miller delivers unbeatable advantages to help you build weld operators' skills.

## Optimize instructor efficiency

Instructors can program a wide variety of customizable weld exercises into either system, so students can work at their own pace — and instructors can have more time to assist students one-on-one.

## Minimize material cost

By helping students refine their welding skills in a simulation environment before beginning live arc welding, Miller systems deliver a green training solution: There's less waste of wire, gas and coupons.

## Deliver real-time feedback

By providing immediate feedback on users' techniques, Miller systems quickly help correct errors, reinforce proper welding practices and accelerate skill advancement.

## Enhance job candidate recruiting and screening

It's faster and easier to evaluate prospective weld operators by using Miller weld training systems to objectively assess their skills.

## Reduce overall training time

Compared to traditional methods, Miller welding education and training systems significantly reduce the amount of time needed to teach students.

## Build a larger, more-skilled welding workforce

Miller welding education and training systems are attractive to computer-savvy young people, drawing them to welding education programs and increasing their success — key to building the larger, more-skilled welding workforce the world depends on.

## Assess weld operator skills and performance

Miller systems make it easy to periodically monitor employee abilities. Weld operators needing more training can receive it; those with advanced skills can be given critical tasks. Quality issues can be improved, operator certification costs can be reduced and qualification records can be generated.

# AugmentedArc™

*The industry's most realistic welding simulation system*

The AugmentedArc system improves the efficiency and economy of classroom education with augmented reality technology that's ideal for beginner and intermediate-level students.

## Here's how it works:

***AugmentedArc** provides a simulation that closely resembles live arc welding — without using an actual arc or consumables.*

- Instructors use the system's software to develop a curriculum of exercises, monitor student performance and create progress reports.
- To complete an assignment, students wear a specially designed welding helmet that contains an external optical sensor, which captures images of coded devices and coupons and sends them to the AugmentedArc system's computer.
- Inside the helmet, the augmented reality environment appears on a specially designed heads-up display panel, precisely showing the user's proximity to and interaction with the workpieces and welding gun/torch. The same images also appear on a second display panel in the system's computer case.
- The AugmentedArc system continuously monitors the user's adherence to predetermined or custom welding parameters — including travel speed, gun/torch angles, distance, aim, contact-tip-to-work (GMAW/FCAW only) and arc length, rod work angle and rod travel angle (GMAW/SMAW).
- When the welding exercise is complete, an analysis screen provides feedback on the user's performance in the form of scores and graphs. Video of the welding exercise is also recorded and made available for later playback, allowing instructors to evaluate students' performance.
- Learn more about the AugmentedArc online at: https://www.youtube.com/watch?v=wYRymhZrFmk

# LiveArc™

*The industry's most complete live arc welding training system*

Ideal for lab training, the Miller LiveArc welding performance management system provides both a simulation/pre-weld setup mode as well as a live-arc training mode, allowing the user to gain experience and build techniques in pre-weld exercises before seamlessly transitioning into real welding on GMAW, FCAW and SMAW processes.

***LiveArc** provides both a simulation/pre-weld setup mode as well as a live-arc training mode.*

## Here's how it works:

- An easy-to-understand touch-screen interface lets users work independently. They can select from a library of preloaded or instructor-customized welding exercises, then view all of the proper equipment settings, weld parameters and the instructor's targeted assignment score.
- Students use either a 400-amp GMAW SmartGun or a 250-amp SMAW SmartStinger for weld exercises.
- Once the welding exercise begins, embedded LEDs in the SmartGun and SmartStinger are detected by the system's motion-tracking cameras, delivering exact positioning feedback to the system's computer for scoring.
- The SmartGun and SmartStinger vibrate whenever predetermined weld parameters are exceeded.
- After the exercise is completed, the touch screen displays feedback on the user's performance, including work angle, travel angle, travel speed, contact-tip- to-work distance and aim.
- Learn more about the LiveArc online at: https://www.youtube.com/watch?v=wVBYMqEwlCg

# A Seamless Transition From Classroom to Laboratory

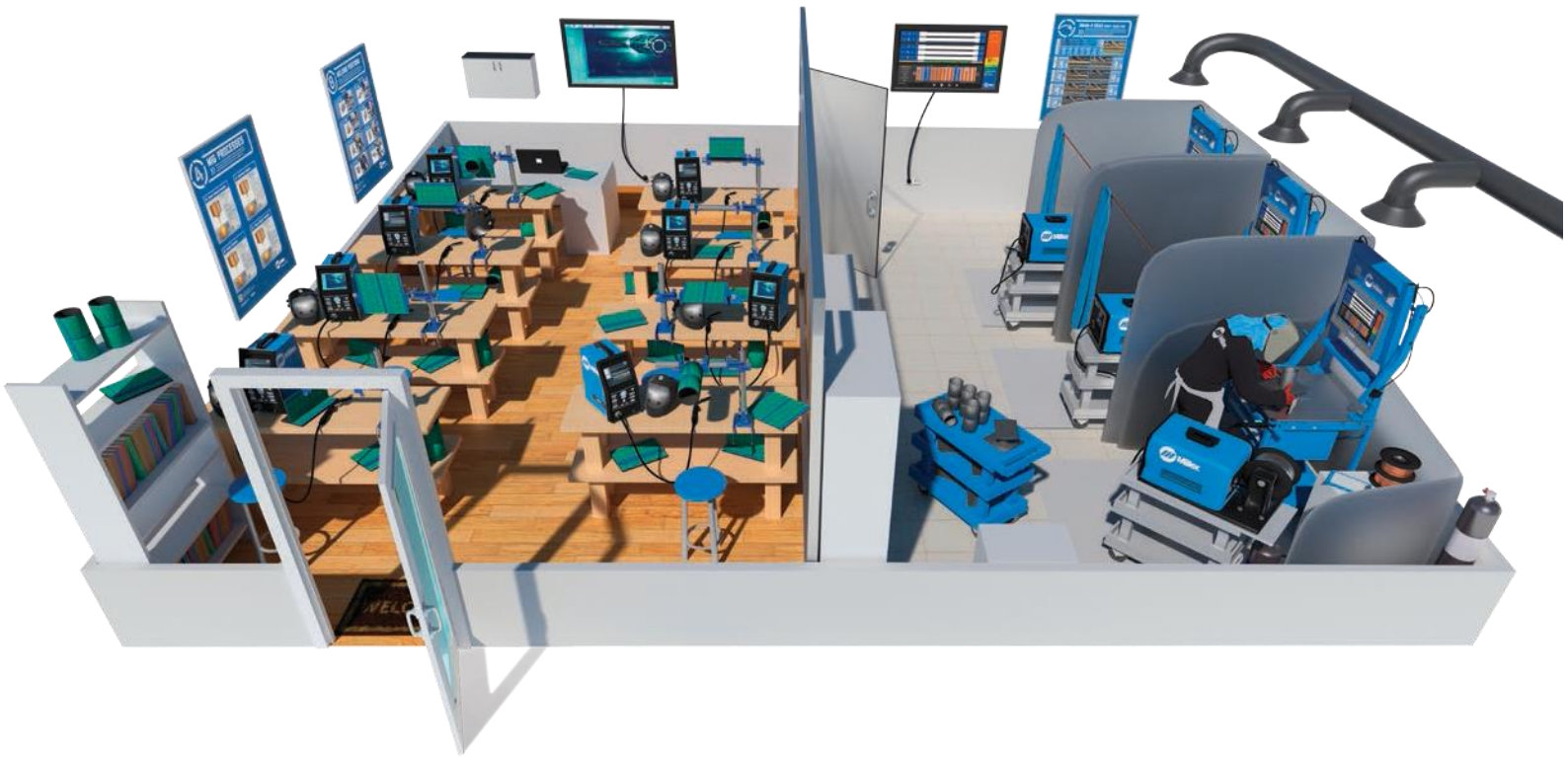
When AugmentedArc™ and LiveArc™ systems are used together, students follow an efficient, natural progression from classroom welding simulation to laboratory live arc welding — gaining both the knowledge and the experience they need to become skilled and productive weld operators.

AugmentedArc™

Augmented reality welding system

LiveArc™

Welding performance management system



# Purpose of the Miller Grant Assistance Tool

In these times of tight budgets, many organizations are exploring funding alternatives as a potential source of support for a variety of welding-related projects using the new Miller Welding Performance Management System. Grants can help your organization gain additional resources.

However, most organizations find it difficult to identify eligible grant funding sources and apply for grants. The grant world is highly competitive. Most funders are inundated with grant applications, so the more closely your grant application matches the grant funder's goals and mission, the more likely you are to be awarded grant funding.

Grants are awarded by public or private funders to conduct certain activities that help meet their goals. By aligning your projects to the funders' mission, grants can provide an organization with funding for projects that otherwise could not be conducted without the extra resources. The purpose of the Miller Grant Assistance Tool is to help you research appropriate grants and prepare a strong grant application for your welding-related project.

# Goal of Your Grant Application

Obtaining Miller equipment like the LiveArc and the AugmentedArc will be the goal of your application as a core component of meeting industry needs for state-of-the-art technology and equipment to build skills, build experience, and build careers.

# Grant Opportunities for Your Project

When searching for grant opportunities for your welding training project, seek grant funders whose mission and goals align with your organization's mission, goals, and priorities to assure your project is eligible for funding.

There are two types of grant funding sources:

1) Federal, state, and local government agencies; and

2) Private, corporate, and public foundations.

As you find potential funders, examine their grant programs. Look at what types of activities they fund, their stated purpose, their preferred method of contact, and their grant cycles. Check their history of giving to projects and organizations like yours.

Carefully read the grant instructions, sometimes called an "RFP" (Request for Proposals) or "Guidelines," and follow all directions. As you write your grant application, tailor your language to the funders' point of view, and show how your project can address their concerns and meet their needs.

Grant deadlines are strict and unyielding. Late applications will likely eliminate your chance at funding for that cycle. Be sure you know all that is required of your organization before applying for grant funds.

Contact the funding agency to let them know of your interest, to ask questions, and for possible feedback. Local foundations may even accept an invitation to meet with you. To assure a productive dialogue, learn as much as you can about the funding agency before speaking with them.

Contacting a funder is an opportunity to gain "between the lines" information and a competitive advantage. It helps you decide if it is worthwhile to apply for a grant and if so, how to shape your application in order to win an award. Ask if the funder thinks your project meshes well with their priorities, and what to do to enhance your odds for a favorable review. Use this information when drafting your application and follow up with a thank you note.


# Grant Resources

Below is a list of online grant resources to begin your search. Federal

Grant opportunities
Find a searchable list of federal grants at http://www.grants.gov/. Educational and training grants are often administered by the U.S. Department of Labor or U.S. Department of Education. Federal grants are usually lengthy and require partnerships with other institutions like industry, non-profits, or other educational institutions. However, federal grants can be of longer duration and offer larger award amounts than private ones.

State grant opportunities
Perkins IV is the principal source of Carl D. Perkins Career and Technical Education Act of 2006 federal funding for the improvement of secondary and postsecondary career and technical education programs across the nation. Locate your state contact by searching the Perkins Collaborative Resource Network at http://cte.ed.gov/stategrants/stateprofiles.cfm.

The U.S. Economic Development Administration's (EDA) Economic Development Directory provides links to resources for each state including EDA regional office contacts, state government contacts, and EDD, TAAC, RLF, University Centers, and Tribal planning organization sites: http://www.eda.gov/resources/.

Workforce Investment Boards direct federal, state, and local funding to workforce development programs. U.S. Workforce System contacts for the Workforce Investment Boards for each State can be found at: http://www.servicelocator.org/wibcontacts/.

Foundations that support educational projects can be researched at the Foundation Center at: http://foundationcenter.org/findfunders/. Private foundations are usually looking to fund eligible, realistic projects that will allow them to have a positive impact with a relatively small investment. Corporate foundations are looking to benefit the communities where they are located and/or do business. Look to the Foundation Center for related resources for special guidance that can help maximize your understanding of the grants process and help you submit a successful grant application.

Community Foundations. Community foundations pool assets from families, individuals, businesses and non-profits to support a wide variety of projects in their geographically defined community. This unique charitable-giving model is found in every state in the nation. Find the community foundations in your area by using the map at: http://www.cof.org/community-foundation-locator and contact them for their current grant opportunities.

## Other Grant Resources

- US Census Bureau https://www.census.gov/topics.html
- Bureau of Labor Statistics http://www.bls.gov/home.htm
- Bureau of Labor Statistics Standard Occupational Classification http://www.bls.gov/soc/
- American Welding Society http://www.aws.org/w/a/foundation/grants/welder_workforce.html
- General nonprofit advancement http://www.nonprofitadvancement.org/
- Citations in grant application http://www.bibme.org/, http://www.easybib.com/
- NAICS Codes http://www.naics.com/search/
- Grant Wrangler Bulletin for K-12 grants http://www.grantwrangler.com/grantmanager/searchdisplay.aspx
- Miller website http://www.millerwelds.com/
- Miller LiveArc™ Welding Performance Management System http://www.millerwelds.com/landing/livearc/
- UW-Madison Library Research Guide for Grant Proposal Writing http://researchguides.library.wisc.edu/content

# Grant Application Process Overview

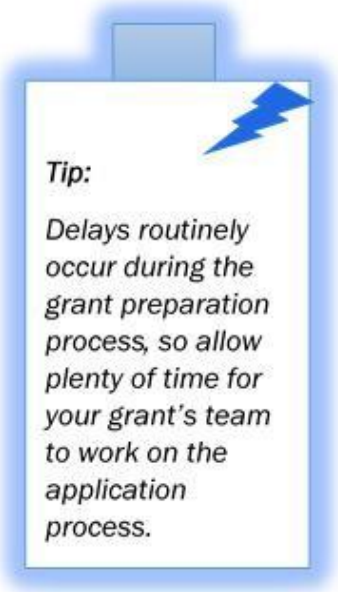
Generally, there are three steps to the grant application process.

*Step 1: Plan and Develop the Application*
Most successful grant applications take more time to prepare than to write. Start as early as possible. See the Grant Opportunities for Your Project and Grant Resources sections to identify a grant that matches your project.

Before you apply for grant funding, your organization should be sure it is ready to implement the project if your grant application is successful. Begin the grant application process only once you have the leadership approval and staff time available. Collect reliable data and statistics that support your understanding of your project's need or problem. National data websites such as the U.S. Bureau of Labor Statistics are listed in the Resources section.


Grant funders want to know every detail of your project plan, so planning and execution are critical to winning a grant. Identify who, what, when, how, and how much your project will cost to implement. This process also helps you identify any gaps or obstacles in your concept so that you can work through them before submitting your application. The result will be a more logical, concise application which can offer you a tremendous edge in the competitive grants world.

Recruit and assign tasks to those who can help you with the budget, proofreading, obtaining letters of support from partners, etc. Identify and recruit any necessary external grant partners and ask for written commitments.




Be specific and realistic about the results you can deliver, and how you will measure their impact on your project and on the problem. Promise as much as you are confident that you can deliver in the project, but no more.

*Step 2: Write and Edit the Application*
Once you have clarified most of the project details, create a draft of the grant application using the funder's required format. Each grant funder will have their own application with instructions and requirements for completing it.

Before you begin preparing a grant application, read all the instructions twice. The #1 reason a grant application is declined is that the applicant did not follow the instructions.

Make sure the draft is edited and proof-read, preferably by more than one person
Choose words and phrases that convey you understand and appreciate the funder's point of view. Avoid jargon and spell out all acronyms when used initially.

*Step 3: Submit the Application*
Submit the grant application to the funder on or before the deadline in the required manner (i.e., funder's online site, via email, hand-delivery, etc.). Grant reviewers usually have to read a stack of grant applications, so make a good impression by submitting a clear, well-written, properly organized application.

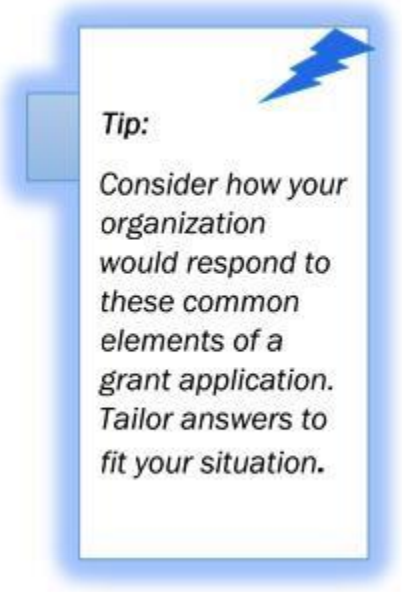
# Common Elements of a Grant Application

The grant application process below provides an overview of the basic steps of planning a project through grant application submission. This highly competitive undertaking can be undermined by inadequate planning, preparation, disorganization and/or poor presentation.

All successful applicants allow enough time to plan, organize and write a grant application that scores well in the grant review process.

The elements of most grant applications are outlined below. While they may or may not be organized in the same order, these elements create a framework to support your case for grant funding. In essence, you are seeking to inform readers about:

- Your organization's capacity and success record to administer grant funds
- The purpose of your project
- Why your project is important
- Whether your project is supported by believable evidence
- The goals your project will achieve
- How your project will achieve its goal(s)
- Whether the cost to conduct your project is reasonable
- How the results will be measured/evaluated
- What will be done with the results




The examples below are not meant to substitute for your project details. They are designed to help you better understand grant application answers and how to tailor them to your situation and project.

## *Organizational Background and Capacity*

*Most grant funders are not familiar with your background or your ability to fulfill the proposed project. You should include a short description including where your organization is located; how many students, businesses, and/or communities it serves each year; its history of working with local partners including other educational institutions and/or employers; any experience working with grants; and what makes your organization a good fit for the grant. If the grant will require extra staff, serve new students or clients, and create significant pressure on your institution, how will you meet the added demand?*

Example: The ABC Technical College (ABC) was created in 1967 and is located in the southwest portion of Georgia in the city of Purdy. ABC serves some 5,000 urban and rural students each year through 80 programs. ABC is accredited by the Higher Learning Commission and can offer portable college credit and continuing education units to students through an approved and proven curriculum.

Recently, ABC Technical College was awarded the 2014 Educational Blueprint award for Best Career Pathways Plan by the Higher Education Association. It was also recognized in 2013 by the Georgia Governor's Commission on Training for obtaining the highest one-year increase in Hispanic male student retention in the state.

ABC possesses the institutional capacity to manage the proposed $200,000 project since it currently offers welding instructional program design and development to 65 students, staff training and recruitment, and grants and financial systems support using best practices. ABC has partnered with most of the major businesses and industry in the region on a number of state and federal grants such as a Georgia Department of Education workforce grant for 2012 and the National Science Foundation Undergraduate Education (DUE) grant awarded in 2011.

Through careful planning and implementation, ABC will use its institutional expertise, strong partnerships, and internal resources to efficiently and effectively meet the goal of serving 10 additional students in the proposed grant.

## *Need Statement*

*Grant funders wish to know what the need or problem is that applicants are trying to address through their projects. Make sure you describe how your need or problem is an important one and aligns with the funder's grant purpose. Use the most current information and/or data available as evidence. Be sure to cite your data sources using the American Psychological Association (APA) style. Describe the problem's social and economic impacts.*

Example: The nation faces an urgent need for skilled welding operators. This is a business concern that has been growing for many years, according to the Bureau of Labor Statistics, which reported that there were about 337,300 welders in the U.S. in 2010.[1] That number is expected to grow by 50,700 by 2020. Many local marine industry companies in our region are fiercely competing for skilled underwater welders, and the lack of these workers has hurt

[1] U.S. Department of Labor, Bureau of Labor Statistics, Management Occupations. Online: http://www.bls.gov/opub/ooq/2012/spring/art02.pdf

businesses and their ability to grow and expand. Skilled individuals can expect a median entry-level wage of $39,110.[2] By addressing these businesses' need for skilled marine welders, our project will in turn strengthen the local and regional economy.

## *Project Description*

*Give a clear description of the project's overall goal and how you plan to achieve your desired outcomes. Give enough detail about the project to make it seem both achievable and unique.*

Example #1: Our high school offers a dual credit program that allows high school juniors and seniors to obtain 29 college credit hours in welding. After high school graduation, participating students require only 13 additional college credit hours to obtain a Welding Certificate or an additional 43 credit hours to obtain the Associate of Applied Science (AAS) degree in Welding Technology at the local technical college. With the addition of a Miller LiveArc™ or Augmented Arc™ to their high school welding training program, these high school students will be able to progress faster through their postsecondary welding programs, thus entering the job market with state-of-the-art skills, less student debt, and credentials to apply toward further higher education degrees and future career advancement.

***Tip:***
*Some funders allow smaller fonts to be used for charts, tables and graphs, which can help you get more information into your application. Just check that your funder allows this.*

Example #2: The Great Manufacturing College (GMC) will purchase the Miller equipment to train four welding instructors, develop curriculum for welding course(s) using the LiveArc™ or Augmented Arc™, instruct 100 enrolled students in the courses, and track the successful completion and employment of students.

In this project, 75 (75%) of 100 participating students will complete the welding training during the 12-month period of the one year grant. The project will be under the supervision of a skilled GMC welding instructor. Within six months of completion, at least twenty-five (25%) students will obtain welding employment from one of the collaborating partner-employers including XYW Manufacturing, Inc. and XYZ Contractors, Inc. In addition, GMC will use all of the Miller equipment during all open houses, job fairs and employer events held at the College during the grant year to recruit additional students and so that students can experience welding in a realistic and safe environment.

The following are selected segments of a project description that would be useful to know when developing your grant application.

Population(s) Served:

*Provide a brief description of the population(s) and numbers to be served by the project. It is particularly important to offer data on special populations that the grant funder seeks to serve such as minorities, veterans, students with disabilities,*

[2] U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics, Welders, Cutters, Solderers, Brazers. Online: : http://www.bls.gov/oes/current/oes514121.htm

*dislocated workers, women, high school students, the unemployed, etc.*

Example: This project will serve 100 (100%) enrolled welding program students at ABC Welding School. The reported demographics of those enrolled in welding for the past three years indicate that more than 75% of those enrolled in the courses will be over the age of 30, low-income, Pell grant eligible, have dependents to support, and work full- or part-time menial jobs. Based on enrollment data from the internal college database for the past three years, we estimate that approximately 20 (20%) of the project's participants will be military veterans, and 5 (5%) will be female students.

Program/Course Identification:

*If applicable, what program(s) are you going to expand or modify? (List your institution's programs and courses; include 6-digit (NAICS code. See the Resources section for free online NAICS code lookup sites.)*

Example: Trailblazer College's Welding Production Program will be expanded to include a new course entitled, "Manufacturing Techniques 1," where students will learn how to produce, punch, shear, saw, drill, and cut sub-assembly parts using the Miller LiveArc™ System and other welding equipment related to NAICS code: 333992–Arc Welding equipment and manufacturing. Students will work both alone and in teams.

Recruitment:

*If you need to recruit participants into the project, how will you do it?*
*What onboarding process will you use?*
*How will you measure successful recruitment?*

Example: Our high school will send e-mail blasts to 3,000 students and school counselors about the project in the first two months. Fliers advertising the Miller Augmented Arc™ System and new welding courses will be displayed in student employment centers at participating colleges, in our schools and the other secondary schools in our district, and at workforce development job centers.

Project staff will attend two job fairs, four welding club meetings, and other events to recruit participants, make student contacts, and log the dates and contacts made. The Miller Augmented Arc™ System will be transported to the job fairs (and other event opportunities as they arise) for hands-on recruitment use.

Instructors of the Miller Augmented Arc™ System courses will submit class rosters to measure how many students were recruited to the project. Students will be given surveys, as they sign up for courses using Miller Augmented Arc™ System, asking how they learned of the training project.

Partnership Alignment:

*How will you align with workforce and industry partners on the project?*

Example: A variety of project activities will align with project partners. A memorandum of understanding (MOU) has been signed by all partners outlining their agreement to work collaboratively on the project and included as an attachment. The XYZ Manufacturing

Company will offer its headquarters to the project staff to hold four Miller LiveArc™ System student workshops during the 12 months of the grant. Langley High School Welding teachers will work with Miller's LiveArc™ System staff to develop new course curriculum using Miller LiveArc™ System equipment. Third, WeldAmerica Company will offer apprenticeships and job shadowing at its new facilities to Higher Ed Technical College students enrolled in the project.

In addition, the local workforce development job center will make referrals to the College welding instructors who use the LiveArc™ System. Together, these cross-discipline project activities will align the partners and result in a well-rounded, collaborative project.

Student Support:

*If applicable, what student support services will you use to increase student success?*

Example: The project will support a 20% position in the College's student employment services. This student employment specialist's time and effort will offer the 40 participating students specialized services including advising, counseling, retention, veteran, minority and other services to support and help them overcome barriers while enrolled in the new welding course.

Methods of Delivery:

*How will you deliver education to participants?*

Example: This innovative project will deliver education to 40 students utilizing the Miller Augmented Arc™ System using simulated welding for classroom and lab activities. In addition, our College will offer (online, hybrid, contextualized instruction) in basic algebra and geometry to strengthen and support the hands-on learning.

Employment (if applicable):

*What strategies will you use to increase employment outcomes?*

Examples: The project will support at least two welding apprenticeships, two internships and one job shadowing experience for the student participants. Business participants from [Business/Company Name] have agreed to each hire two project completers as entry level welding operators. Job fairs, employment workshops and career assessments will also be used to stimulate employment opportunities for student participants.

Project Staff:

*Identify by name and title the key staff who will work on the project. State what each person's roles and responsibilities will be.*

Examples: Allerton High School Shop Teacher Macy Jones will be the Project Director. Ms. Jones will oversee all aspects of the project including recruitment, procurement, flier distribution, administration, reporting, etc. Ms. Jones will supervise the part-time Project Assistant.

## *Goals & Objectives*

*The grant application requires a description of the applicant's goal(s) and the objective(s) designed to accomplish the goal(s). Goals are expressed in broad terms that solve or alleviate the problem identified in your long-term vision. Objectives are much more specific and are measurable, time delineated actions to make your goal a reality. Define objectives using the SMART method--Specific, Measurable, Achievable, Realistic, and Time bound. Goals can have more than one objective.*

Example: *Goal:* The overall goal of the ABC project is to decrease the critical workforce need for production welders in the Omaha, Nebraska metropolitan region by providing high skill, high-wage occupational welding training to 100 (100%) enrolled two-year college students at our two-year technical college.

*Objective #1:* During the performance period, the College will offer Miller Augmened Arc™ System training to 100 (100%) students enrolled in the welding project. Of those, 50 (50%) students (specific, measurable) will successfully complete the project and receive certificates of completion. Twenty-five (25%) of the completers will be placed in employment within six months (achievable, realistic, time bound).

*Objective #2:* By the end of the second year of the performance period, project staff will use the train-the-trainer method and Miller Live Arc™ to train at least 40% (40) of the college's welding faculty on the new nuclear welding curriculum in at least six counties (Oak, Elm, Mulberry, Evergreen, Poplar and Pine). Of those, 10% (10) faculty members (specific, measurable) will use the new curriculum in the nuclear welding course in fall 2016 (achievable, realistic, time bound) to 100 students.

## *Outcomes*

*Describe the outcomes you expect to achieve in the project. Outcomes should be measurable (i.e., at least 70% of participating students will score a 90 or above on the Miller welding simulator before moving on to live welding) and not too general or vague (i.e., student will be safe when welding).*

Example #1: 80% of the 200 students trained in the project's welding class will be interviewed for a welding job within one year after the completion of training by at least one of the participating companies.

Example #2: The project will improve student access to Career and Technical Education (CTE) Program of Study by an increase of 25% as measured by the number of 11$^{th}$ and 12$^{th}$ grade students at Shoshone High School enrolled in CTE Programs of Study during the 2015-2016 school year compared to the baseline year of 2014-2015.

Example #3: The project will increase rigor in technical and academic content in our welding classes. Our high school teachers will gain specialized knowledge reflecting current industry standards and include skills in STEM education as related to high demand and high wage careers. This will be evaluated by 100% of 20 STEM course teachers who complete the Miller system training.

## *Timeline*

*Grant applications often require a project timeline that specifies dates for each phase of the project's tasks or activities. Below is a simple timeline for an 18-mount project.*

| Sample Project Timeline | | |
|---|---|---|
| *Activity (that leads to an outcome or outcomes)* | *Responsible Party* | *Target Completion Date* |
| Convene administrative work group | Project Director, Admin Asst | Month 1 |
| Perform project administration activities | Project Director, Admin Asst | Months 1-18 |
| Convene employer advisory group | Project Director | Months 1, 4, 8, 15, 18 |
| Procure and setup Miller LiveArc™ System<br>SPECIAL NOTE:<br>1. Do not sign purchase agreements BEFORE a grant is awarded by the funder; funders typically do not pay for expenses incurred prior to an actual award being made.<br>2. Contact your purchasing department for procurement policies and procedures to follow when acquiring capital equipment. | Project Director; Procurement | Month 1 |
| Recruit potential participants | Project Director, Instructor | Months 2-12 |
| Screen participants for interest and aptitude | Project Director | Months 2-12 |
| Enroll participants in training | Project Director | Months 3-13 |
| Teach two welding classes | Welding Instructor(s) | Months 3-13 |
| Track completing students and employment | Admin Asst | Month 15, 18 |
| Evaluate and submit final report to funder | Project Director, Admin Asst | Month 18, 19 |

## *Evaluation*

*Decide who will evaluate the success of the project, how they will evaluate it, and when they will do it. How will you know that the project had an impact on the problem or need? For example, six project completers became employed in marine welding by participating business partners within six months of completing.*

Examples of evaluation criteria:

- Student evaluations of training will demonstrate X% increase in knowledge as measured by pre- and post-course testing.
- Instructor evaluations of their Train-the-Trainer experience will demonstrate X% increase in knowledge as measured by pre- and post-course testing.
- Number of welding certifications issued is X% higher than previous semester/year.
- Number of project completers being hired shows X% increase meeting employer and community needs.

## *Dissemination*

*Describe how your organization plans to disseminate the project's results. These are the outcomes that you discussed in the Project Description, Outcomes and Evaluation sections. Promote your results so that others may learn from them and can replicate successful projects in their own institutions. You should be prepared to follow through on your plan if you are funded.*

Example: Our high school will share the results of this project to secondary and post-secondary schools throughout our southern region of California by publishing them through the five participating school district's newsletters and websites and on local cable television. Press releases will be distributed to the district's media outlets, and the Project Director will invite all institutions in the region to attend a webinar that includes a LiveArc™ System demonstration.

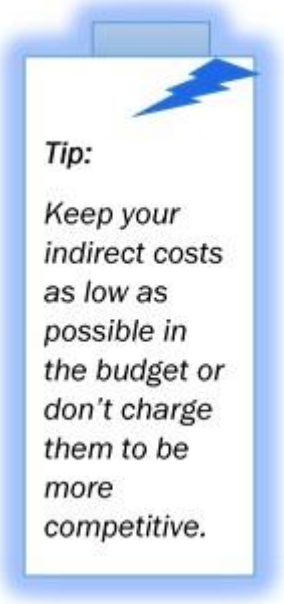
## *Sustainability*

*Discuss how you plan to continue the project after the grant ends. Identify key partners who will help achieve your project's vision. Make the most of the resources your partners have to offer. You do not have to sustain every activity in your project, just the ones that you want to maintain. Can the project be sustained and institutionalized into regular business operations?*

Example: At the end of the project, Edgewood High School has agreed to hire the adjunct welding teacher at half-time.

## *Budget & Budget Narrative*

Some reviewers believe that the budget is the key element of the grant application because it usually reveals whether the project has been carefully planned. The budget usually includes a spreadsheet or table with the budget detailed as line items and a budget narrative (also called a budget justification) that explains the expenses and shows how you arrived at them. Be sure to follow the grant guidelines for the budget format.




Budgets consist of two kinds of costs:

- Direct costs are those made by the project or allocated to it such as salaries, benefits, travel, supplies, equipment, training and other costs.
- Indirect costs are the expenses that cannot be allocated to the specific project such as your organization's personnel, purchasing, accounting, utilities, security, etc.

Most institutions of higher education have a written Indirect Cost Agreement with a federal agency to determine the fixed indirect cost rate that they can charge in grants. However, funders often set indirect cost caps in the grant guidelines that limit the amount an applicant can charge to a grant budget to a far lower percentage. Some grantors require cost sharing or matching funds to ensure that the applicant shares the cost of the project and usually takes the form of a percentage such as "10% cost sharing" or "50% match." Unless stated otherwise by the funder, matching funds can be contributed either in cash or as "in-kind" donations. In-kind donations are typically project-related salaries, supplies or travel charged to your (or a partner's) organization. Other in-kind donations can be waived indirect costs. Grant writing and other costs incurred before funds are awarded are usually not allowed.

| Sample Project Budget | | Grant Funds Requested | College/ High School In-Kind Contributions |
|---|---|---|---|
| Salary<br>1 FTE Program Director annual salary 12 months<br>1 Part time assistant 20 hours per week X 34 weeks X $18 per hour<br>2 FTE Faculty X 5 days X 8 hours X $50 per hour Train the Trainer<br>2 FTE Faculty to train 10 high school teachers x 4 hrs x $50<br>10 teachers x 4 hr training session x $35/hr (In-Kind) | | $45,000<br>$12,240<br>$4,000<br>$400<br>$0 | $1,400 (high schools) |
| Fringes<br>1 FTE Project Director $45,000 x 44% fringe<br>1 Part time assistant 20 hours per week X 34 weeks X $18 per hour X 10% fringe<br>2 FTE Faculty X 5 days X 8 hours per day X $50 per hour Train the Trainer X 50% fringe<br>2 FTE Faculty to train 10 high school teachers x 4 hrs x $50 x 50% fringe<br>10 teachers x 4 hr training session x $35/hr x 50% fringe (In-Kind) | | $19,800<br>$1,224<br>$2,000<br>$200<br>$0 | $700 (high schools) |
| Staff Training/Professional Development<br>2 instructors attend NCWET Train the Trainer training out of state:<br>Registration fees $249 x 2 =$498<br>Lodging 3 nights x $129/night tax-exempt x 2 = $774<br>Airfare $300 x 2 =$600<br>Meal Per Diem $45 x 5 days x 2 = $450 | | $498<br>$774<br>$600<br>$450 | |
| Equipment<br>Miller LiveArc™ System includes instructor training, service, and support.<br>Computer package including printer, scanner, and software | | $(current market)<br>$1,200 | |
| Staff Travel<br>Local travel expenses $.565 x 300 miles x (1 Director + 2 Faculty) In-Kind | | $0 | $509 (college) |
| Materials/Supplies<br>Annual software upgrades with new program features<br>10 flash drives x $10 for exporting student data<br>Welding coupons for training use | | $(current market)<br>$100<br>$600 | |
| Other (Specify) General printing, fliers | | $0 | $150 |
| SUB-TOTALS: | (LiveArc™ costs to be added) | $89,086 | $2,759 |
| TOTAL PROGRAM: (Including In-Kind) | | $91,845 | |

Budget Narrative

The budget narrative should:

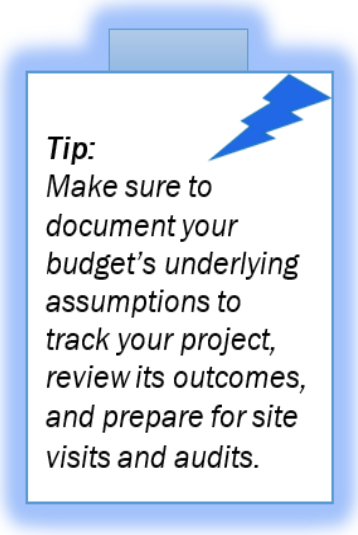
- Correspond with the dollar amounts and information on the budget form.
- Show how the amounts were derived and how the line item relates to project outcomes.
- Provide a brief description for each item that accurately characterizes how funds (both grant funds and other funds) will be used.
- Organize the information so that it is easy to follow and understand.

- Calculate and recalculate all the costs correctly, including the match figures in the project budget table.
- Reinforce the project activities and your organization's credibility through realistic costs and clear definitions.

Sample Budget Narrative (must match above budget exactly)

Salary – One College welding instructor will act as the Project Director spending 100% full-time equivalent (FTE) to oversee the project for the 12 months of the grant. The annual salary of $45,000 will be supported by the grant.

One part-time assistant will provide project registration, logistical support and participant data collection and tracking. The salary of $18 per hour for 20 hours a week for 34 weeks of the contract year totaling $12,240 will be grant-supported.




Two FTE College Welding faculty will attend a one-week Train the Trainer x 5 days x 8 hours x $50 per hour ($4,000) supported by the grant. Two FTE College Welding faculty will then train 10 high school teachers in welding instructional design, teaching strategies, the use of LiveArc™ and more during a four-hour training session. Grant-supported salary will be for 4 hours of training at $50 per hour for 2 instructors totaling $400. Time for 10 teachers will be contributed (In-Kind) to the project by each secondary/high school at a rate of 4 hr/teacher x $35/hr x 10 teachers totaling $1,400.

Fringes – Fringe benefits for the Project Director will be paid by the grant at a rate of 44% x $45,000 (salary) x 12 months = $19,800; and for the Part-time assistant at a rate of 10% x $18/hr (salary) x 20 hrs/wk x 34 weeks totaling $1,224. 2 FTE college faculty will attend Train the Trainer X 5 days X 8 hours per day X $50 per hour X 50% fringe for $2,000. College faculty will instruct 10 high school teachers with 4 hours of training at $50 per hour x 50% fringe for 2 FTE faculty totaling $200. Fringe benefits will be supported by the grant for the actual employer portion of the costs: taxes, medical, dental, vision and life insurance, and retirement contributions. Fringe benefits for 10 teachers will be contributed (In-kind) to the project by each secondary school at a rate of 4 hr/teacher x $35/hr x 10 teachers x 50% totaling $700.

Staff Training/Professional Development – Two College welding faculty will receive training on welding instructional design and teaching strategies at a Train-the Trainer conference offered by the National Center for Welding Education and Training from July 14 – 19, 2015. Registration fees at the educational affiliate rate $249. Based on XYZ high school travel policy, lodging $129/night x 3 nights = $387, airfare of $300, per diem of $45/day x 5 days = $225. Total of $249+$387+300+$225 x 2 staff totals $2,322.

Equipment – One Miller LiveArc™ System will be purchased to recruit, train and assess project participants. The purchase of the Miller LiveArc™ System includes one day of Miller LiveArc™ System training, service, support, and a one-year Miller True Blue Warranty. The total for the Miller LiveArc™ System is (*current market price*). A personal computer package including printer, scanner, and software is needed to develop and maintain project records, data collection and tracking, in addition to performing administrative work connected to this project. The computer package will be shared by the Program Director and part-time assistant and housed at the school. $1,200.

Travel - Local mileage costs for director/instructors to travel from high school to local technical college and employer-partner project meetings. Costs calculated at federal government rate of $.565/mile x 300 miles x (1 Director + 2 Faculty) = $509.

Materials & Supplies – Annual software upgrades with new program features will be purchased at *(current market price).* 10 flash drives x $10 ($100) will be purchased for instructors to export student data for review and grading. Student and instructor participants will use welding plate and pipe test coupons to practice and teach live welding skills. 600 plate coupons ($375) and 300 pipe coupons ($225) will be purchased totaling $600.

Other (Specify) – Along with general printing needs, the College will contribute the cost to print 150 color 14” x 17” fliers at a cost of $1/each to be placed in high visibility locations for the purposes of recruiting students to the project. $150.

## *Attachments*

Grant funders often require additional attachments such as assurances, certifications, resume’s or curriculum vitae, letter of commitment, audited organizational financial statements, and other documents. Label each attachment and provide them in the order outlined by the funder’s guidelines.

### After the Grant Submission

Securing a grant may take several attempts. Debrief with your organizational members to discuss lessons learned and next steps. If possible, seek feedback from the funder for the reasons your application was declined. Be persistent and continue to seek funding sources that support your efforts.

Please contact Miller at any time for product questions and/or additional information.

Miller contact information:
Phone: 1-800-4-A-Miller (1-800-426-4553)
Email: www.MillerWelds.com

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