

Welcome to MATEC NetWorks Webinar

Grant Opportunities and Success Strategies

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NetWorks is an Advanced Technological Education Resource Center
supporting faculty in
Semiconductor, Automated Manufacturing, and Electronics education



NetWorks is a part of MATEC, a member of the Center for Workforce Development in the Division of Academic and Student Affairs.



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Moderator



Lara Smith

Project Manager
MATEC NetWorks

Panelists



Gerhard Salinger

Program Director,
National Science Foundation



Catherine Crary

Grants Development Specialist,
Maricopa Community Colleges

Host



Mark Viquesney



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Grant Opportunities



Gerhard Salinger

Program Director,

National Science Foundation



Disclaimer

I am fully funded by the National Science Foundation, but the ideas presented are mine and may not be an official NSF position.



Objectives for Today's Discussion

- Define Middle Skill Jobs
- 21st Century Skills
- National Governors Association Report
- Impacts of the Advanced Technological Education program
- Other Programs at NSF



Middle Skill Occupations*

- Although there is unemployment many jobs go unfilled
- 45% of job openings need middle skills
- Not well advertised
- Jobs are both destinations and stepping stones
- Require some post secondary education

*www.insidehighered.com/news/2009/02/27/brookings



Middle Skill Occupations

- Science and Engineering Technicians
- First Line Supervisors
- Inspectors
- Machinists and Industrial Maintenance
- Welders
- Policemen and Firemen
- Medical Technicians



Job Prospects

The Center on Education and the Workforce at Georgetown University* estimates between now and 2018:

- approximately 7,000,000 middle-skill job openings
- will be filled by workers with an associate's degree or occupational certificate.
- Average income about \$46,000 for employees with certificates (more than 27% of BA holders).

*Google Pathways to Prosperity



Community Colleges in the US

Provide the postsecondary education required by most new middle skill jobs

- Maintain open access to postsecondary education
- Prepare students for transfer to four-year colleges and universities – teachers
- Prepare students for the workplace – 21st Century Skills
- Provide non-credit courses – English as a second language, remedial mathematics, skills upgrading, enrichment programs.



Working with Industry

- Focus on the competencies that industry requires of technicians
- Get decision makers from industry involved
- Provide flexible pathways for students
- Help industry see that two-year colleges can educate their workers
- T-shaped technicians - depth in one area but broad understanding of job



Technical Competency

- Link companies and colleges in education of technicians
- Backward Design
 - Establish learning goal
 - What will students know and be able to do – assessment
 - Then, and only then, develop activities
- DACUMS - Developing a Curriculum – with technicians in industry
- Validation by industry



21st Century Skills

- Work in teams
- Communications – oral and written
- Non-routine problem solving
- Adaptability
- Entrepreneurial – sees what needs to be done and does it as well as understanding business

**At least as important as technical skills.
Industry cannot teach these skills.**



Problem Based Learning

- Industry non-mission critical problem about which you build a course or part of a course; a solved problem is a case
- Brings the workplace into the classroom
- Teaches 21st century skills
- Not typical instruction – hard for faculty
- Not traditional learning – hard for students



NGA Center for Best Practices Report

- A Sharper Focus on Technical Workers – How to Educate and Train for the Global Economy
- Advanced Manufacturing Technical Education Collaborative (AMTEC)
 - Maintenance technicians
 - Kentucky Community and Technical College System
 - 30 Community Colleges in 12 states
 - 34 auto-related plants – GM, Toyota, Ford, suppliers
 - Connected to other ATE Centers – CARCAM and CAAT - Others




Recommendations

- Champion technician education
- Focus on sectors that have major economic impact
- Use state funds to encourage community college collaboration and innovation
- Develop multi-state partnerships focused on high-quality, industry-valued education
- Require comprehensive outcome data to assess student outcomes and inform policymakers



Grant Opportunities

Select the pen tool  to the left of this screen and place a ✓ next to the program(s) that you are familiar with:

- ATE
- ITEST
- S-STEM
- STEP
- Noyce



Advanced Technological Education

The ATE program promotes improvement in the **education** of science and engineering **technicians** at the undergraduate and secondary school level and the educators who prepare them, focusing on technicians for high-technology fields that drive the nation's **economy**. The program, in its 18th year, focuses on two-year colleges and expects two-year colleges to have a leadership role in all projects.



Technician Occupations

- Bio-Related: BioTech, Agriculture, Environment
- Energy Related: Alternative Fuels, Sustainability, Processes
- Electronics: Nanotech, Optics
- Engineering Technologies: Maritime
- Information Systems: GIS/GPS, Cyber Security, Telecommunications
- Manufacturing: Automotive, Machining, Mechatronics, Medical Devices



ATE Program Budget

- Funding
 - \$51.6 million FY 2009
 - 70% goes to community colleges
 - \$64.0 million in FY 10 and FY 11
- Receive
 - 275 Proposals - Fund about 25-30%
 - In the future it is expected that there will be more emphasis on community colleges in other programs.



ATE Tracks

1. Centers: 40% of funding
 - National 9
 - Resource 11
 - Regional 18
2. Projects including small projects 220 - 42 %
3. Targeted Educational Research 6 - 4%



Types of Activities

www.ateprojectimpact.org

Projects can focus on one or more aspects of:

- Program Improvement;
- Professional Development for Educators;
- Curriculum and Educational Materials Development;
- Teacher Preparation
- Research on Technician Education



ATE Impact: Annual Survey

- Western Michigan Evaluation Center
- Mainly monitoring; Over 95% completion
- 60,000 students – 25 % female; 45% minority
- 46,000 faculty – 30% secondary
- 900 articulation agreements with secondary schools and 550 with four-year schools
- Develop or modify 450 courses per year
- Partnerships with 4,900 businesses and industries



Impacts on Students

- Understand the workplace
- Broader base of applicable technical and professional skills
- Correlate courses with DACUM input, industry advice and traditional science standards
- Courses address national skill standards
- Contacts with industry



Impact on Faculty

- Think of their job as more than teaching
- Serve on local, regional and national committees
- Contacts with industry
- Network nationally with people with similar interests



Impact on the Community College

- Services for grant writing and processing
- Connections between colleges, high schools, and four-year institutions
- Partnerships with industry
- Attention from state agencies and area professional societies
- Attracts other grants and funding
- Regional Reputation



Impact on the Community

- Economic development
- Industrial expansion
- Reputation of school
- Archived resources
- Networks of colleges



ITEST

Information Technology Experiences for Students and Teachers

- Increases the STEM capacity in the STEM professional sector of the U.S. workforce by targeting K-12 students and teachers



S-STEM

Scholarships in Science, Technology, Engineering and Mathematics

- For academically talented, financially needy STEM students



STEP

Science, Technology, Engineering, and Mathematics Talent Expansion Program

- Seeks to increase the number of students in
STEM fields



Noyce

Robert Noyce Teacher Scholarship Program

- Provides funds to post-secondary institutions to support scholarships, stipends, and academic programs for STEM majors and professionals to become K-12 mathematics and science teachers



Review of Objectives

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- Other Programs at NSF



Broadening Impact

NSF-funded Projects at Two-Year Colleges June 15-16, 2011

Conference to:

- share promising strategies and lessons learned
- deepen knowledge
- develop a community of practice



Evaluate Webinar

**Strong Evaluation Plans =
Stronger Proposals**

July 20th, 1:00 - 2:30 PM Eastern

Mike Lesiecki, Norena Badway and Liz Teles

Register at

www.evaluate.org/events



Resources

www.nsf.gov

www.atcentral.net

www.atcenters.org

www.atprojectimpact.org

www.teachingtechnicians.org

www.evaluate-at.org



Thank You

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? Type questions in your chat window

Strategies for Success: Proposal Development



Catherine Crary

Grants Development Specialist,
Maricopa Community Colleges



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Objectives for Today's Discussion

Participants will be able to:

1. state six components to planning a proposal
2. state six components to developing a proposal
3. state four tips to working with your Sponsored Research Office (SRO)



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Poll Question

What is the most common mistake SRO's see with individuals developing proposals?

A = Proposal does not match the budget request

B = Proposal has failed to describe the idea in detail

C = Proposal does not respond to guidelines

D = Proposal does not discuss dissemination or sustainability



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Strategy One: **Planning**

1. Read and understand guidelines



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Strategy One: **Planning**

1. Read and understand guidelines
2. Do your homework: research!



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Strategy One: **Planning**

1. Read and understand guidelines
2. Do your homework: research!
3. Talk to your SRO

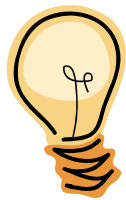


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Strategy One: **Planning**

1. Read and understand guidelines
2. Do your homework: research!
3. Talk to your SRO



SRO tip: develop a writing outline



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Strategy One: **Planning**, cont.

4. Begin budget discussions early



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Strategy One: **Planning**, cont.

4. Begin budget discussions early
5. Discuss evaluation, dissemination, and sustainability



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Strategy One: **Planning**, cont.

4. Begin budget discussions early
5. Discuss evaluation, dissemination, and sustainability
6. Include partners in the planning process



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Strategy Two: **Development**

1. Remember the guidelines and agency handbooks/guides



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Strategy Two: **Development**

1. Remember the guidelines and agency handbooks/guides
2. Describe the proposal in detail



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Strategy Two: **Development**

1. Remember the guidelines and agency handbooks/guides
2. Describe the proposal in detail
3. Include a goal, objectives, and activities.



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Poll Question

Please identify the objective:

- A** = To increase the precision manufacturing workforce in Arizona.
- B** = By Spring 2013, 85% of project participants will complete a CNC Machinist Certificate.
- C** = Local industry presents guest lecture.



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Strategy Two: **Development**

3. Include a goal, objectives, and activities.

Goals: concise statements of the project purpose

Objectives: specific, measurable, and quantifiable outcomes to be achieved by the project

Activities: actions taken to accomplish each objective



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Strategy Two: **Development**, cont.

4. Describe the project team, including collaborators



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Strategy Two: **Development**, cont.

4. Describe the project team, including collaborators
5. Include a strong evaluation plan



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Strategy Two: **Development**, cont.

4. Describe the project team, including collaborators
5. Include a strong evaluation plan
6. Developing the budget is often difficult



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Strategy Two: **Development**, cont.

4. Describe the project team, including collaborators
5. Include a strong evaluation plan
6. Developing the budget is often difficult



SRO Tip: Know your institution's indirect cost rate.



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Strategy Three: **Submission**

1. Proposal review

- Think like a reviewer
- Have two other individuals review



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Strategy Three: **Submission**

1. Proposal review
2. Proposal narrative and budget are not the only pieces of the puzzle.



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Example: NSF Online Application Package

- Cover Sheet*
- Project Data Form
- Project Summary
- Project Description
- References cited
- Biographical sketches
- Budget and budget justification
- Current and Pending support
- Facilities, Equipment, and other resources
- Data Management Plan
- Mentoring Plan (if appropriate)
- Other Documents

* Cover sheet includes details about the college, human subjects research review information, and nine various certifications.



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Strategy Three: **Submission**

1. Proposal review
2. Proposal narrative and budget is not the only piece of the puzzle.
3. SRO usually submits the proposal

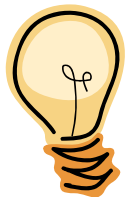


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Strategy Three: **Submission**

1. Proposal review
2. Proposal narrative and budget is not the only piece of the puzzle.
3. SRO usually submits the proposal



SRO Tip: grants.gov proposal are encouraged to submit 48-72 hours before the deadline.



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Strategy Four: **Post-Submission**

Has your proposal been:

funded

or

not funded?



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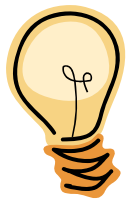
Strategy Four: **Post-Submission**

Has your proposal been:

funded

or

not funded?



SRO Tip: Serve as a reviewer.



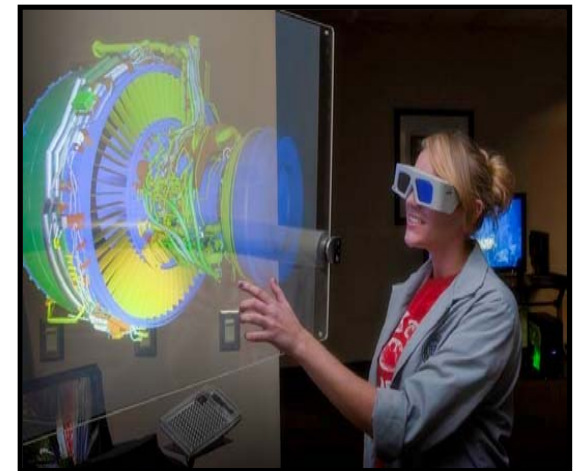
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Tips for submitting NSF proposals

Ask yourself:

- Is your idea novel or innovative?
- Is it connected to a timely issue?
- Can your idea have a large impact and contribute to the STEM knowledge base?



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Tips for submitting NSF proposals, cont.

Ask yourself:

- Does your proposal have the potential to include special populations?
- Can your project be disseminated broadly?
- Did you include all the references used to support your project idea?



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Review of Objectives

Six components to planning a proposal:

1. Read and understand guidelines
2. Do your homework: research!
3. Talk to your SRO



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Review of Objectives

Six components to planning a proposal:

4. Begin budget discussions early

5. Discuss evaluation, dissemination, and sustainability

6. Include partners in the planning process



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Review of Objectives

Six components to developing a proposal:

1. Remember the guidelines and agency handbooks/guides
2. Describe the proposal in detail
3. Include goals, objectives, and activities.



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Review of Objectives

Six components to developing a proposal:

4. Describe the project team, including collaborators

5. Include a strong evaluation plan

6. Developing the budget is often difficult



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Review of Objectives

Four tips to working with your SRO:

1. Develop a writing outline
2. Know your institution's indirect cost rate
3. Submit grants.gov proposals 48-72 hours early.
4. Serve as a reviewer



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NetWorks Upcoming Webinar

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