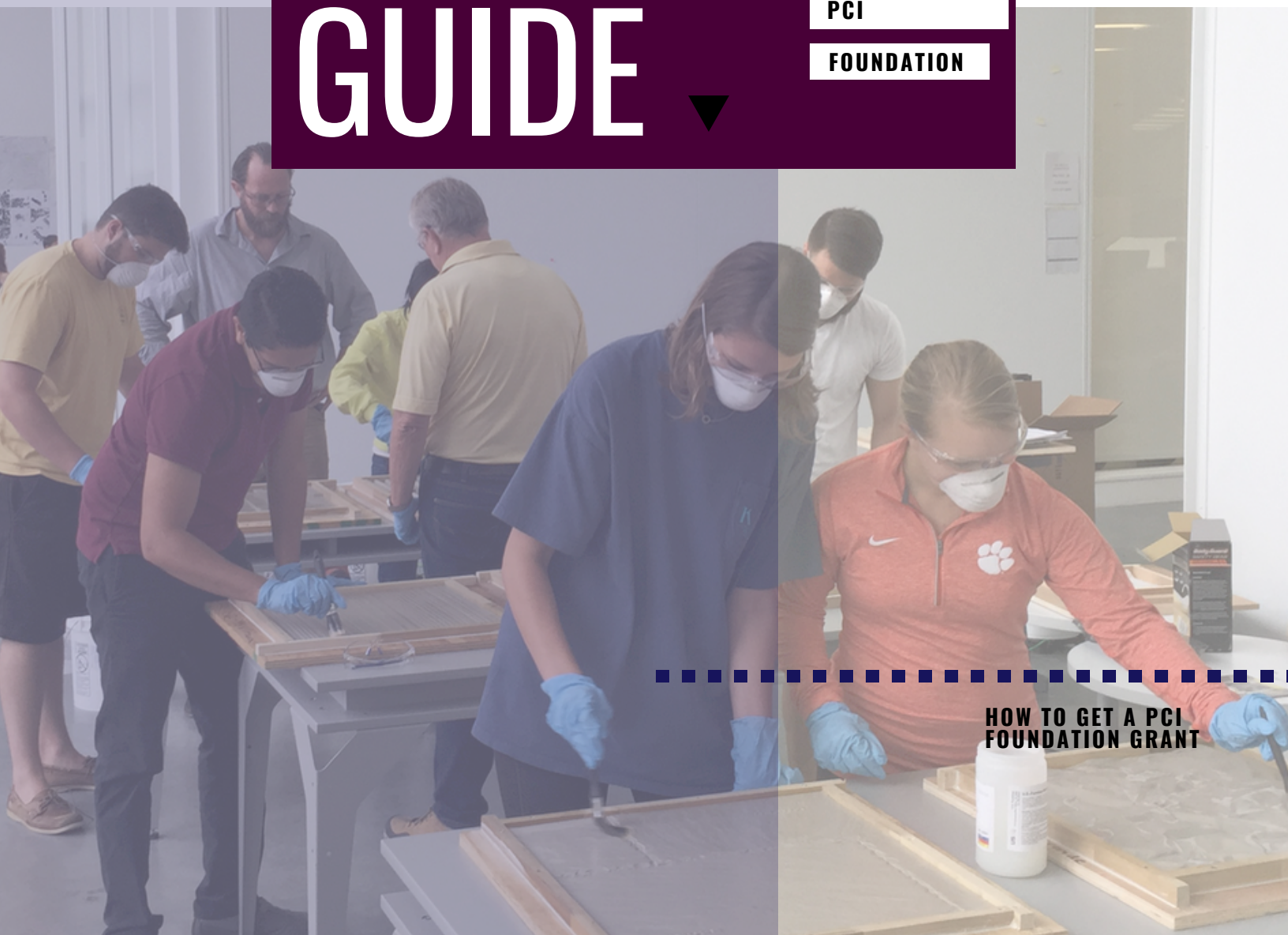
PCI Foundation

GETTING STARTED GUIDE

2018 - 2019

PCI

FOUNDATION



HOW TO GET A PCI FOUNDATION GRANT

MESSAGE

FROM THE EXECUTIVE DIRECTOR

Keeping the Focus on Partnership, Experiential Learning, and Community Outreach

Because no two programs are alike, it sometimes makes it hard to explain what the PCI Foundation programs are exactly. Each program must meet the needs of everyone involved. This means curricular needs of the school and students, the interests of the professor, and the business goals of the partner must all be taken into account when designing the program. And when each of those partners is different, no two programs are never the same.

The PCI Foundation has put together this booklet to help guide those people interested in using our resources to further precast concrete student education. The key to each of our programs is that they are adding new precast concrete curriculum to the school and working with a local precast concrete partner. Engaging educators and students with our industry is our chief goal.

Since 2007 we provided grants to 24 schools of architecture engineering and construction management. While we have only written about a few of our current programs here, you can find more information on all of our programs on the PCI Foundation website.

I have been involved with the PCI Foundation since its first "Precast Studio" as the partner liaison to the Illinois Institute of Technology. We have come a long way in learning how to develop new programs since then. I am available to answer any questions you may have about putting together a proposal for a curriculum development grant. Please be in touch and I'll be happy to share any insights.

Key to every program is the focus on partnership

Curriculum needs of university must be met

Key areas of study include architecture, engineering and construction management

Marty McIntyre
Executive Director

MESSAGE

FROM THE ACADEMIC CHAIRMAN

Building on the Success on Precast Concrete Programs

Getting a grant from the PCI Foundation is like getting a map that has never been opened before. There is anticipation and knowledge that adventure awaits, but what it exactly has in store for you depends greatly on which roads you take after you open the map.

The most rewarding academic experience of my career was receiving a national grant to establish the first engineering design studio in the US for the PCI Foundation - from 2009 - 2015. It helped my students and enhanced the stature of the University of North Florida as a leading university on prestressed concrete academic activities.

Opening up the roadmap to the PCI Foundation grant allowed me to use our program to meet new people, forge new partnerships, and find new issues to research and teach. It has allowed me to build relationships with those in the industry, such as the PCI members near my school, but also with engineering firms and the Florida Department of Transportation. That initial grant was followed by research dollars, industry connections, publications, presentations and even friendships.

I encourage you to spend a few minutes with this Start Up Guide to find if there are ways that you and your school might work with the PCI Foundation in the future. If you are passionate about creating a program that is continually building your knowledge, expanding your opportunities and taking steps to learn about new building technologies, a PCI Foundation grant is a great place to start. If you have any questions, please feel free to call either myself, or the executive director, Marty McIntyre.

Adel ElSafty
University of North Florida
PCI Foundation Academic Council Chair

PROGRAMS

IN OUR ELEMENT

Taking on the challenge of teaching precast in schools

It wasn't long ago that almost no schools of architecture, engineering and construction management taught any precast concrete as part of the standard curriculum. A few might offer a day as part of a materials class, or a graduate class as part of an engineering program, but almost everything a professional knew about precast had to be learned on the job.

The Precast/Prestressed Concrete Institute has long had a strong program of continuing education programs - boxed lunches and seminars that appeal to many who design with precast or who want to learn more about it. But in 2001 it was evident that the market needed more. If the precast concrete industry was going to grow, an educated architect, engineer and construction manager would be our best advocate.

Grants

In 2006 a new program called the Spancrete Studio - an architecture studio at University of Wisconsin Milwaukee sponsored by Spancrete - was a success. The PCI Foundation decided, with Spancrete's permission, to model our programs on that initial program.

It wasn't long before new programs came on board and brought new ideas with them. The University of North Carolina Charlotte was the first program to combine architecture and engineering students. The University of North Florida had an engineering- only program. Each one reflected the unique characteristics of the professor, the school, the partners and the students.

Soon the PCI programs evolved into less of a "Precast Studio" program and more of a "Curriculum Development Grant." The focus remains solidly on developing new curriculum and less on the method of delivery. Not every program is a studio, and some programs have included everything from the school of business to landscape architecture programs.

Some of the things that makes a proposal ideal for the PCI Foundation includes:

- New Precast/Prestressed Curriculum Developed
- Strong Partner Relationship with School & Professor
- Strong Support from the School Administration
- Integrated (Multi-Disciplinary) Program When Possible
- Professor Interested in Advancing Her/His Career Through Research, Writing or Community Work
- Faculty Willing to Attend Industry Events
- Feeder School for Areas Where PCI Member Sell Precast
- Local Financial Support of the PCI Foundation

Professors Seminar

A good idea before writing a PCI Foundation grant proposal is to attend the PCI Foundation Professors Seminar. Hosted during the spring of each year at one of the schools currently using a PCI Foundation Grant, the three-day program gives professors a chance to share their best practices for teaching precast concrete and working with their partners.

The seminar is free and includes housing. The 2019 program will take place at North Carolina State in Raleigh. Contact Marty McIntyre at the PCI Foundation for more information. Info@pci-foundation.org.

PCI Convention

The PCI Foundation maintains a strong presence at the PCI Convention. Professors and students involved in Grant Programs are strongly encouraged to attend the convention in order to take part in several learning, networking and presenting opportunitiess

Student Poster Sessions
Each program is provided the space on show floor to display a poster about a student project or about the program in general. Students are encouraged to attend the convention in order to present the posters and learn more about the precast industry. Some travel assistance is provided by the PCI Foundation to assist with student travel and some local partners may also provide assistance with travel.

Professor Education Session
Each professor is provided a short time during the PCI education sessions to present his curriculum as part of a panel discussion on the PCI Foundation programs. Some travel assistance is provided by the PCI Foundation to assist with professor travel and some local partners may also provide assistance with travel.

Student Social Time
Each year the PCI Foundation sponsors a student social outing such as bowling or ping pong to allow students from various programs a chance to let loose and get to know each other in a relaxed setting.

Professor Round Table
Professors have an opportunity to share ideas and best practices in an informal setting.

Project Precast
In 2019, the PCI Foundation will host a new design competition called “Project Precast.” The competition is designed for students and recent graduates of PCI Foundation sponsored programs, think of this as a cross between the TV shows “Project Runway” and “Shark Tank.”

Alan Mattock Scholarship

Alan Mattock was a professor at the University of Washington and was a driving force in the precast/prestressed concrete industry, particularly in the area of research and on the PCI Research & Development Committee. The PCI Foundation helps administer a scholarship in his honor. Information on the scholarship is available via the Research and Development Committee of PCI and the Jenney Fellowships.

Seminar Brings Colleagues Together to Learn and Grow

Annual Program is Free and Highly Recommended for All Seeking to Submit Grant Proposal

Each Spring, the PCI Foundation offers a program for architecture professors who wish to learn more about precast concrete design and how it can be taught in the university classroom or studio. The program is a three-day intensive workshop that includes instruction from college professors already teaching precast as part of grants received from the PCI Foundation, precast industry experts, and architects with precast design experience.

The next program will take place in coordination with **North Carolina State in Raleigh, NC from May 21 - 22, 2019**. Professors will learn the basics of precast concrete design for buildings, and will be given tools that will assist them in teaching precast concepts to students. Additionally, the topics of integrated programs and partner relationships will be covered. At the end of the program, professors will receive all available resources and teaching tools from PCI. During the field day we will visit Gate Precast Company in Oxford, NC as well as making arrangement to visit with one or more Raleigh architecture firms.

Content provided to professors interested in teaching precast design will include videos, books, case studies, precast details, and other useful materials. Many of the PCI Foundation-sponsored programs have offered integrated courses with either engineering or construction management departments. If professors from either of those departments wish to attend, it can be arranged.

The final day will include a tour of the Constructed Facilities Lab (CFL) on Centennial Campus and possible stress test demonstration and a meeting in the new Hunt Library on NC State's Campus.

The focus of the seminar in designing *with* prestressed concrete, not on engineering or designing prestressed concrete pieces themselves. For more information on learning about how to teach a prestressed concrete design engineering course, please contact Marty McIntyre for information about the Portland Cement Association Professors Workshop that typically takes place during the summer months at PCA headquarters.

PROFESSORS SEMINAR
PCI Foundation

Typical Schedule

TUESDAY - May 21
PEDAGOGY DAY
noon - 5 pm
Introduction to Precast and Classroom Examples
6 pm Group Dinner

WEDNESDAY - May 22
FIELD DAY
8 am - 4 pm
Precast Plant Tour
Architectural Office Tour & Case Studies
Project Tours / Jobsite Tours
Dinner on your own

THURSDAY - May 23
MATERIALS & RESOURCES
8 am - noon
Introduction to Available Teaching tools, ideas & resources, ideas for partnering, integrating with other programs

The interaction between professors proves to be an important part of the professors seminar each year

Here Are Some Questions That Typically Arise

Is my institution eligible for a grant from the PCI Foundation?

The intention of the PCI Foundation is to seed new programs at institutions of higher learning. We have envisioned these programs to be part of a school of engineering (civil or structural), architecture, business school or construction management. However, the PCI Foundation Trustees will consider a program application from any department where understanding the fabrication, design, construction, or business of precast/prestressed concrete is the focus of the program.

Can I apply for a grant to run a course that already exists at an institution?

The expectation is that the PCI Foundation will fund NEW programs. So a regular semester-long course on precast design that has been offered in the past would probably not be funded. However, adding new elements to the program such as seminar that is open to the public, big beam competition team, plant tours, classroom lectures by industry guest speakers, site visits, or design competitions would make a program more likely to be funded. It all depends on the total program.

Some schools have found the PCI Studio or Instruction program to be a good place to study the integrated design process – and have included programs in both the architectural and engineering schools at the same time.

What is the time frame for submitting a proposal?

The PCI Foundation Board of Trustees will consider proposals at any time during the year. Before submitting a proposal, please contact Marty McIntyre so she can arrange a session for the BOT to consider it.

What kinds of activities will the PCI Foundation support?

Activities that have previously been part of programs sponsored by the PCI Foundation include (but are not limited to):

o PCI-Certified Plant Tours
o Hands-on casting of precast pieces
o Tours of form liner manufacturers or other precast supplier partners
o Big Beam Team competition
o USDOE Solar Decathlon Entries
o Touring architectural or engineering firms affiliated with precast projects
o Precast construction site visits
o Guest classroom lectures by industry professionals.
o Travel to precast plants and projects outside of the US
o Desk reviews for student designers
o Mid-term and Final reviews of student work by industry partners.
o Public forums to show student work to community
o One-on-one consultation with precast specialty engineers.
o Project site visits
o Seminars open to the public

Other programs may also be supported. The amount of support will depend on the activities scheduled, the number of faculty members involved in the program, and other factors. Each proposal is rated on its own merits.

Will the Foundation support prestressed research?

PCI Foundation focuses on curriculum development.

Several grantees have found that the relationships they have formed with their partners and others related to their work with the precast industry has led to research in the precast field, just not funded by the PCI Foundation.
.

Are there certain other expectations that each program must meet?

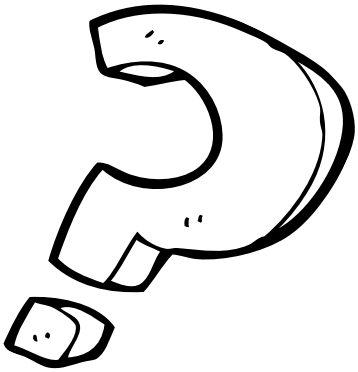
The PCI Foundation strives to create a collegial atmosphere between itself and the professors and students in our academic programs. **In every case, the PCI Foundation asks professors and some of the students to be active in PCI events and meetings**. This typically includes a student poster session at the PCI Convention each fall, a professor-led session at the PCI Convention, and other opportunities to present the work of the student at national and regional meetings.

Other items that the Foundation likes to have include photos of the programs, video when possible, a way to connect with students who are part of the program in order to evaluate the program, and information on curriculum and events.

How long do I need to allow between submitting a proposal and starting a program?

It takes some time. See a suggested timetable elsewhere in this document. It has taken between 6 week to 6 months to launch a program.

Other programs may also be supported. The amount of support will depend on the activities scheduled, the number of faculty members involved in the program, and other factors. Each proposal is rated on its own merits.



The Perfect Match: Precaster Seeks Professor Willing to Engage In Experiential Learning

What should you look for in a partner when you are putting together a program that depends on the school/business relationship to succeed?

Faculty Champion with Staying Power and Curiosity
You need to identify a professor/faculty that wants to be a champion for a precast program. Not only in including it as part his or her curriculum, but someone who will engage with the industry and create opportunities for the students to learn in the field by experiences.

Typically a good candidate is a full-time faculty member as any part-time or visiting professor might not have a permanent appointment for a long term commitment, although there are exceptions . A young tenure-track professor will bring ideas and energy, but also a tenured professor might bring authority and experience to build a legacy. Sometimes, a program will have a mix of both.

School Administration is On Board
Administration support: this is a must, because the administration sets the overall agenda of what is important to the department/school. While bringing funds is a key to get programs started, it is crucial to have the administration's commitment to the long-term continuance of a precast program. "In our case at Clemson I could not have asked for better support from our administration at all levels," says Carlos Barrios of Clemson University.

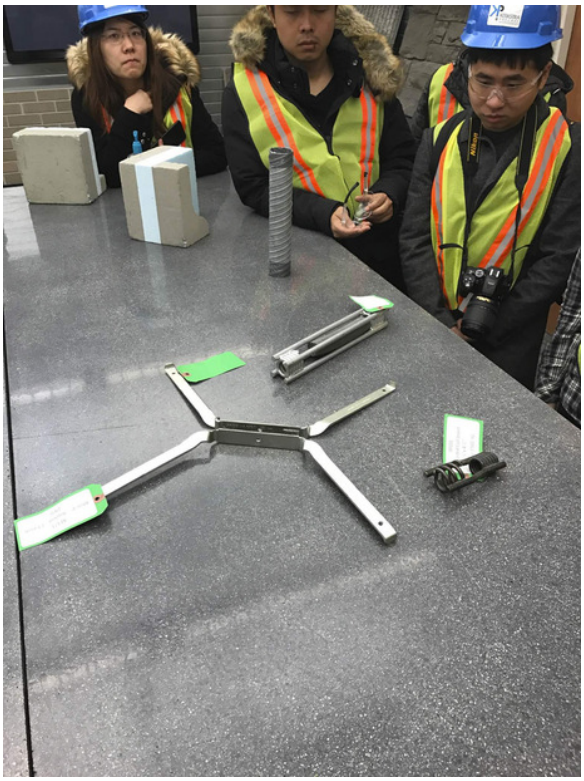
Willingness to Become Engaged with the Precast Industry
A Curriculum Development Grant from the PCI Foundation offers opportunities beyond the classroom. A professor who is interested in seeking opportunities to research precast topics, attend PCI meetings, and otherwise be engaged with the overall industry beyond the classroom. When this level of engagement is present, we have found that the programs are vastly more successful.

Invites the Industry Partner Before Semester
The teamwork that is required for a successful program does not happen with one partner making the plans and the other waiting for an invitation to come in. Rather, both partners meet prior to the start of the semester to map out what the program will look like, when the students will need contact with the industry, and how the precaster can be involved. This is also a great time for the precaster partner to use his or her connections to invite others who can add to the student experience into the classroom - such as form fabricators, connection suppliers, or admixture companies.

Commitment to Sharing
The PCI Foundation is always looking for feedback on its programs. Whether it is asking students to fill out a survey at the end of the semester or having a professor share his experience in an article in Ascent Magazine or being part of the poster session at the PCI Convention. We place a high value on sharing what works, and what doesn't work. "I think all the activities that the PCI foundation sponsor really help bring together resources and tools to support our work. Since I started this program, things continue to improve. Events like professors seminar, student's posters, publications (Ascent), precast in a box, and many other are fundamental for our success," says Carlos Barrios of Clemson University.

Proximity
Travel to and from the plant is a key to making a curriculum development grant work. So proximity can play a role in the success of a program. It can be useful in helping get students to the plant - but many schools and plants have found ways to work with commutes as long as a few hours - proper planning for the commute is important to making it work.

Communication
If the professor isn't a great communicator, she should at least be a good communicator.



Trial Run: The Clemson Experience

Carlos Barrios of Clemson Shares how the School approached the idea of its program by running a pilot program prior to submitting a proposal.

In the case of Clemson, perhaps one of the most relevant elements for our success was when we did the pilot studio before starting our program. This helped us understand the aims of the PCI Foundation program, the industry resources available to us, and possible partnerships to develop a program to our needs. It also helped us evaluate is it was the right fit for us in the long term. Along this line of thought I might suggest to consider implementing a first level or start-up program that might help identify if all pieces are in place before making bigger commitment for both the foundation and the school.

So How Do We Get Started?

First things first - PCI Grants Require a Partnership - Which Means Both the School and the Precast Business Partner Will Need to Figure Out Some Things. Patience is a Virtue!

Programs have come together in as little as a few months, but it typically takes between 12 - 18 months from the time the partners sit down together until the time that the classroom program begins. When things get rushed, some of the key elements of partnership can get lost .

Here are some tips for places the local partner can lead the interaction.

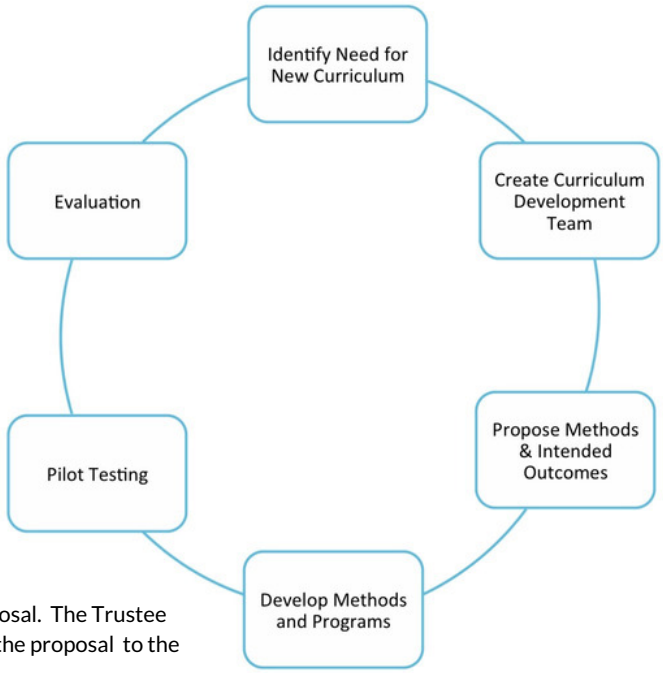
1-3 years prior
• Begin working with school and professor to learn more about their curriculum and how the partners might work together to establish a new PCI Foundation Education Program.
• Confirm the school administration support for program.

6 -18 months prior
• Enlist the support of other companies, suppliers, and regional groups in the area to work together on the program. Ensure that local companies and individuals are financially supporting the PCI Foundation sufficiently to establish a track record of interest.
• Contact the PCI Foundation Executive Director or Academic Council Chair to establish an Advisory Committee who will help guide the school and local partner through the application process.

• **Attend the PCI convention or the PCI Professors Seminar** (together if possible). Meet with other professors in the program and take home ideas from which to write your proposal. (The PCI Convention takes place in February or March of each year, and the PCI Foundation Professors Seminar takes place every year in the spring at various universities).
• If appropriate, line up faculty who can help integrate multiple disciplines into the program (for instance, if it is an architecture program, how might engineering students be involved?)
• In many cases, schools have found that it is helpful to have a precast concrete module taught as part of a reinforced concrete or materials class prior to any students taking the PCI Foundation sponsored course.

6-12 months prior
• Collaborate on a preliminary program proposal. Talk about the needs of all partners and ensure that a quality educational component is included.

The first step is to identify the need for new curriculum and the next step is to create the team



• Submit preliminary proposal. The Trustee Liaison typically presents the proposal to the Trustees.
• Get comments back from Board of Trustees. Make changes if needed.
• Submit final proposal

2-6 months prior (assuming proposal is approved)
• Negotiate and sign Memorandum of Understanding (this process takes between 3 weeks and 3 months depending on university). No grant checks will be sent until an MOU is executed. A sample MOU is included later in this booklet.
• Funding is received following executed MOU
• **Local Partner and University Participants meet to finalize syllabus**
• If course is a design studio, discuss the project program and what kind of project is appropriate to take on during the semester.
• If professor is not already a PCI Professional member he or she should become one at this time.

CLASSES BEGIN! Here are some suggested timelines for interactions between the local partner and the professor/students. The local partner and the professor should work together to see that several of these events occur during the semester.

Early in Semester
• Guest speaker from precast industry - having this speaker early helps establish the connection with the precast industry immediately and introduces the students to the industry partner.
• Sign students up as PCI members
• **Plant tour** - The earlier in the semester the plant tours happen, the better understanding the students have of scale for fabrication.

Mid term or later
• **Mid-Term Review or Desk Review** - some time during the middle of the program is a good time to establish a review with the precast industry. This can take place either during the regular student mid-term review, or can be set up as an individual desk review. One or more industry partners can participate.

PCI Convention
• Help the professors and students register for the PCI Convention. Once there, ensure that they have a worthwhile experience by working with them on their agenda while at convention.

Final Review
• Attend the final review of student projects. Take photos and learn more about where the students will go once the semester is finished.

After the Semester
• **Evaluate** - the local partner and professor should meet together at some point after the semester finishes to review the program and make plans for the following year or semester.
• **Report** - a short written report on the final program is expected after the semester (or school year) is finished. *Remind professors to submit this report which must be completed to ensure the next year's funding.*

Plan
• Start planning for the next year.

What Makes a Proposal Stand Out?

Executive Director Marty McIntyre gives some tips on putting together a proposal that will lead to a "yes"

When it comes time to write a curriculum development grant proposal for the PCI Foundation, every professor wants to create a document that leads to an easy "yes." The question is how do you make it happen? Generally speaking - both content and style matter, although content always trumps style. After sitting through many of these proposal debates, I have put together a few suggestions to help create a proposal that will be read and will lead to a "yes."

Guaranteed Questions

I know that these questions will always be asked during a review of a proposal and should therefore be addressed in every proposal:

- Is prestressed currently taught at the university?
- How does this go beyond a regular semester-long typical prestressed course?
- What is the budget, and what is the thought process behind the budget (are they just asking for the maximum because it is the maximum?)
- Is there any integration with other departments in the university?
- What type of local community engagement is there?
- How many students will this program reach?
- Is there local support for the program? (not only in-kind support, but does the local industry also support the work of the PCI Foundation?)
- Are these partners the right partners? Are we missing anyone?
- Who are the students? Where are they from and where do they work once they finish with the program?
- What kind of support does the program have from the university?

Style Also Matters

Other suggestions that I always make when it comes to style:

- Be as visual as possible. If you can use a Venn diagram, photo or pie chart to convey part of your story, do it.
- Keep the proposal to 5-6 pages max (not including addendum)
- Front load all the curricular and programming ideas at the front of the proposal
- Make a precise ask. State up front in the simplest language exactly what you are proposing. Again, load this AT THE FRONT of the proposal and make it simple.
- When deciding between CVs, always use the shorter one.

Writing a Support Letter

A good support letter offers general well wishes and intent, and yet a support letter can convey so much more. A great support letter offers specifics:

- Provide information on previous and future support of the PCI Foundation
- Identify the players - who will be involved with the program, what will they do and how much time will they spend, let us know your point of contact
- Pinpoint the resources you plan to use to support the program
- Spell out in-kind support you will provide - materials, books, literature, travel to PCI events, bed time, etc.
- Share how the program will support your local needs - will you hire graduates? Will they work for consultants who design with your products locally? What does it mean to you?

Other Reminders

Some other things to keep in mind while writing a PCI Foundation proposal:

- The PCI Foundation focuses on curriculum development. We are not in the business of research, which is handled by the PCI Research & Development Committee.
- Because we focus on curriculum, some of the chief concerns will be learning outcomes for students, participation in PCI Foundation activities such as the poster sessions, professors' seminar, or PCI Convention, and deliverables such as reports, student projects and photos.

The easiest way to submit a winning proposal is to work with your Trustee Liaison make sure that all your questions are answered.

Proposal Information