



Developing an Internship Program for Your University Technology Transfer Office: *Hire Students to Spread Resources Further*

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In these lean economic times, there has been much buzz throughout the technology transfer industry about using MBA candidates and other graduate students as an inexpensive resource for university technology transfer offices (TTOs). Indeed, the use of student interns by these offices has a nearly 10-year legacy. In 2001, Fuentek, LLC, along with partner Deloitte Consulting, spearheaded an ambitious internship program for the Office of Technology Management (OTM) at the University of Illinois at Urbana–Champaign (UIUC), as described in the case study accompanying this paper. The program is successful to this day and offered many lessons about the do’s and don’ts of developing such a program.

Tech transfer internship programs offer many benefits to both the students and the organization, but cost-cutting advantages (if any) are low on that list. Still, the tremendous experience such a program can offer students—training the future leaders of the business and tech transfer fields—provides reason enough to commit to an internship program.

This paper gives insights into some of the best practices learned at UIUC as well as at the University of Iowa and through Fuentek’s observations in tech transfer consulting throughout the past decade.

Tech Transfer Internship Programs: An Overview

What does an effective tech transfer internship program look like?

At its most basic level, the internship program consists of one or more graduate students hired by the university’s TTO to assist with various aspects of screening of incoming technology disclosures. A technology screening consists of an efficient, preliminary evaluation of a technology’s commercial potential based on a brief, targeted amount of online and database-driven market research. A rating of “high” indicates that the marketplace is ripe for the technology and that further in-depth assessment of the technology’s commercial potential is warranted to develop an outreach strategy. A “medium” rating indicates that the technology may have promise but further developments of the invention or

Focus on Screening

As you put together an internship program, plan to have the interns focus on technology screening, not other aspects of the tech transfer process. The reasons for this are many, but the most important is the interns’ experience level. Most students simply do not have the experience to work effectively beyond the screening level, where discussion and interactions with industry and outside organizations necessarily come into play. In addition, the students will have little awareness of the organizational and political nuances and ramifications that pertain to discussions with potential partners. You can avoid these land mines by having interns focus on the first step of technology transfer: the technology screening. There, they can gain the most ground-level experience while providing the greatest value.



the market are needed prior to commercialization. A “low” rating indicates that no market potential exists. (For more information about effective technology screening processes, see “Getting to the Best First: Proactive, Efficient, and Effective IP Screening” by Laura A. Schoppe in the June 2004 issue of [les Nouvelles](#) or “Extracting Value from Your Patent Portfolio” by Laura A. Schoppe and Nancy Pekar in [The PDMA Handbook of New Product Development](#), 2nd Edition, October 2004.)

Why is an internship program a good idea?

Tech transfer internship programs offer many benefits to both the students and the TTO:

- **Experience:** Provides extremely valuable training to the students for many careers
- **Leadership:** Lays the groundwork for the next generation of technology transfer and business leaders
- **Credit:** May enable students to earn class credit
- **Productivity:** Helps the TTO make disposition decisions and avoid accumulating a backlog of unscreened technologies
- **Value:** Enables TTOs that may not have the budget to hire external consultants to conduct screenings to obtain some support while keeping the money within the university
- **Efficiency:** Allows TTO staff to focus on in-depth assessments, marketing, deal making, and other commercialization efforts

When does an internship program make sense?

Despite all of these benefits, internship programs are effective only when certain criteria are met:

- When the TTO has ***cleaned out its backlog*** of technologies and wants to use the interns to avoid accumulating a new backlog by conducting ongoing screenings — **Note:** As described in the accompanying case study, the UIUC interns did help clear a backlog of technologies as the initial training ground for the program in 2001; however, one of the lessons learned was that it would have been far more cost-effective for the backlog to be cleared by professional staff/consultants, who can conduct screenings much faster than interns. (Professionals can conduct a screening in about 2 hours, compared with at least 8 hours for an intern). The interns at UIUC now conduct screenings of incoming technologies to avoid a new backlog.
- When the TTO can dedicate time and resources to ***thoroughly training interns*** in the technology screening process and the bigger picture of technology transfer
- When the TTO can ***hire interns at the beginning of summer*** before their second year of graduate school so that they have them for a concentrated, dedicated period of time



If the above criteria are not met, an internship program is less likely to be successful for your organization, as it will cost more than having your professional staff screen the technologies and offer little return on investment.

Timing is Everything

The timing of your program also is critical to its success. Begin the hiring and interview process in early spring, with training beginning as soon as classes/exams finish. Starting with interviews in early April, selecting interns in late April, and training by early May has proven to be an effective schedule. Hiring interns as early as possible before the end of the academic year will help ensure you have access to the best pool of applicants.

Timing Intern Hiring and Training

- ✓ Call for applications: Early spring
- ✓ Interviews: Throughout April
- ✓ Intern selection: Late April
- ✓ Training: Early May

Having the interns start work at the beginning of the summer (rather than during the school year) allows them to dedicate a full-time schedule (30 to 40 hours per week) to the TTO. The costs of not doing so will far outweigh the rewards of any program. Interns who cannot commit intensive time up front because they are working on a part-time basis will not gain enough understanding of the process or skills to provide value to your program. In addition, the cost and time involved in training an intern is the same regardless of when they are hired. Yet a summer-to-graduation intern can provide more than 500 hours of services, while a school-year-only intern is likely to be available less than 100 hours. Interns who start in the summer with few other distractions will be proficient enough to screen one technology per week by the time the school year starts. For example, at UIUC the interns hired and trained during the summer were able to operate in a steady state of reviewing incoming technology disclosures during the school year and were able to function independently.

Keep in mind that most interns who stick with the program into the school year will be with you only for one year, given the two-year nature of most for MBA and other graduate programs. Despite this high turnover, dedicating time and resources to training is essential and will pay off in the long run of your program. These interns can become valuable members of the tech transfer community and can even help train their intern successors. In fact, at UIUC, two of the 2001 interns were later hired by the OTM as full-time technology transfer managers and one of them now is the head of the office.

The Team is the Foundation

Whether you hire one student or ten, the team of interns you put together provides the foundation for your program. Hone your hiring process and your expectations to provide the best likelihood of success, along with a realistic outlook for continued improvement.



Hire a team of four interns

If you can afford to do so, hire a team of four interns, where each intern can complement and provide support for the others on the team. Ensure that two or three of these interns have a general technical background that is in line with your organization's technology portfolio. If you have law student applicants available, consider reserving one slot on the team for a student interested in pursuing a career in intellectual property (IP) law. If you have any library information science (LIS) students in the pool of applicants, you may opt to reserve a spot for one of them, as they can provide assistance with market research. If LIS students are not part of the team, the other interns can exploit the LIS resources at the university to fill this need.

While a team of four is a great number to start the program, even if you have the resources to hire only one or two interns, they can be very helpful.

Establish and follow hiring criteria

The qualities that make a good tech transfer intern are often the same as those looked for in your professional staff or consultants, though their experience will be far less. Most importantly, the interns' technical background must align with the focus of your organization's technology portfolio. If you have a broad portfolio but can hire only a few interns, consider assigning them to specific technology areas according to their experience. Or you may opt to hire students who have a more broad, generalized technical background. In addition, any amount of business experience will be very helpful. This background will aid the interns' understanding of market research and what companies are seeking in a new technology.

Hiring Criteria

- ✓ Technical education that matches your technology portfolio
- ✓ Finishing first year of graduate school (i.e., has at least 1 year available for internship)
- ✓ Is excited about technology and innovation
- ✓ Has a good work ethic and can work independently

During the interview stage, look for a positive attitude and enthusiasm toward technology. Ideal interns not only think technology is cool but also are excited about discussing alternative uses for technology and recognize the need for technology to address a true problem—one that might be beyond its original use.

Be prepared for turnover

In an ideal world, your team of four interns would be a great fit and stick with your TTO throughout the school year. In reality, you may have only one or two interns who demonstrate the skills and dedication necessary to stick with the program for the full year. This is another reason a four-intern team is preferred—if a few interns leave for any reason, you won't be left high and dry. You also can help lower intern turnover during the year by making sure your interview and training processes are high quality.



Training is Critical

Even the best interns will flounder if improperly trained. Training is the single-most important factor influencing the success of your interns and your internship program.

Present the big picture

From the outset of the training program, include a thorough explanation of the entire tech transfer process, from technology screening through commercialization. This will help the interns understand where they “live in the ecosystem” and how their role is part of the big picture.

Explain the goals of their work

Give interns a complete picture of the key goals of the screenings they will be performing—that is, to identify the best technologies among all the disclosures. In focusing on technology screening, they are charged with distinguishing the technologies that do not have a high likelihood of commercialization success from the technologies on which the TTO should be focusing its deal-making efforts.

Provide step-by-step guidance

Teach interns each step of how to perform an efficient, effective, and accurate technology screening. The basic steps involve reviewing the patents and technology disclosures, conducting market and competitive research (including identifying keywords as well as identifying and learning how to use appropriate databases), and assigning a recommendation score. Cover each of these steps in depth with time for practical application, evaluation of the intern’s work, and questions and answers. At its core, this training is similar to that given to professional staff and consultants. (For more information about effective technology screening processes, see “Getting to the Best First: Proactive, Efficient, and Effective IP Screening” by Laura A. Schoppe in the June 2004 issue of [les Nouvelles](#) or “Extracting Value from Your Patent Portfolio” by Laura A. Schoppe and Nancy Pekar in [The PDMA Handbook of New Product Development](#), 2nd Edition, October 2004.)

One additional step in the screening process that is recommended for interns is to have them conduct an inventor interview. Although professional staff normally do not need to perform this step for screenings, most interns will greatly benefit from interviewing inventors, who can help the interns gain a much deeper level of understanding much faster than they could by trying to figure it out on their own.

Ensure consistent data capture

As your program is gearing up, make sure you have a database or repository for the technology screening information. Interns should be trained on how to use this database properly and consistently. This will enable the interns to input all screening information into the same place and in the same format, which will save you time—and your sanity—later.



Expect a learning curve

Even with quality training, interns will have a longer learning curve than more experienced tech transfer professionals. In addition to understanding the technology (expedited with an inventor interview), interns often need extra attention in identifying keywords and writing or otherwise documenting their findings. Providing many relevant examples and checking the interns' work (especially early on) will be especially important and helpful to them in honing their writing and documentation processes.

Evaluating Success and Maintaining the Program

To maintain a high level of quality and accuracy among the interns, be sure to check their work not only at the beginning of the program but also at ongoing intervals. When the program is just getting off the ground, assign a staff member or consultant to review every screening the interns complete to check for key information, request additional data if necessary, and verify the recommendation.

If staff members frequently need additional information or are questioning the recommendation of the interns, take a second look at the training process and the interns' comprehension. Improving these factors will enhance the quality of the experience interns receive and the amount of time staff members are able to shift from screenings to marketing and deal-making.

Case Study: Building a Tech Transfer Internship Program at the University of Illinois at Urbana–Champaign

Beginning in March 2001, Fuentek, LLC, along with partner Deloitte Consulting, spearheaded an ambitious internship program for the Office of Technology Management (OTM) at the University of Illinois at Urbana–Champaign (UIUC). The goal of the initial program was to screen a backlog of more than 700 previously unutilized technologies as part of a statewide initiative to enhance economic development. This initial internship program also was used as a springboard for a steady-state program, in which interns would continuously screen incoming technology disclosures throughout the school year, enabling the OTM to avoid accumulating a new backlog.

The call for applicants was issued in March, the hiring process began in April, and the interns began training by May. Students were hired based on technical and business background as well as a demonstrated passion for technology during the interview process. They went through extensive training in technology screening over a 3-day period in early summer.

Because the consultants had generous support from the state and the unusual luxury of a large pool of applicants (64)—including law students interested in intellectual property (IP) law and library information science (LIS) students—UIUC hired 16 interns, forming four teams of four interns each. Each team included two students with technical background in a given field as well as one law student and one LIS student to assist with market research. UIUC has a broad technology portfolio, so each team focused on a single technical area (life sciences, engineering,



software, and biomedical). The teams divided the technologies among the four members to gather market and IP information.

Throughout the summer, each team met every day, giving team members the opportunity to present several technologies to the whole team and solicit feedback and questions as an interim quality assurance measure. The Fuentek/Deloitte team brought in industry experts to review the interns' work for additional oversight, verifying the work's quality as well as the veracity of the recommendations. This verification process revealed a 95 percent rate of approval. That is, 95 percent of the screenings received the same recommendation from the intern and the industry expert. This high verification rate validated the quality of training the interns received and the structure of the program.

Moving forward with the program, 4 of the 16 interns stayed on with the OTM part time during the school year, and UIUC hired 4 new interns the following summer to take over for the graduating interns, maintaining a steady screening process and avoiding a new backlog of technologies. Fuentek personnel trained the interns and a staff member on the screening process. By the third year, the staffer was able to train the interns, and in the fourth year the internship program had strengthened such that the outgoing interns were able to train the incoming interns.

Lessons Learned

While it is recommended that an internship program be used primarily to maintain a steady state of technology screenings rather than process a backlog of technologies, the UIUC case study is an example of an ambitious program that was able to use its large-scale beginnings to develop a well-refined and successful maintenance system for incoming technology disclosures.

Ultimately, the UIUC case study provided many valuable lessons learned:

- **Start early:** Begin the hiring process as early as possible (training should begin by May) to ensure the best possible pool of applicants.
- **Choose the right students:** Look for MBA students with technical backgrounds who are ending their first year so that they are available through the summer and on a part-time basis during their second year.
- **Focus on screening:** Have interns work only on screenings (not other aspects of technology transfer like marketing), and use them to screen incoming technologies rather than cleaning out a backlog of technologies.
- **Train thoroughly:** Provide step-by-step guidance on the entire screening process, explaining how the interns' role is part of the bigger picture as well as the finer details of their assignments.
- **Expect a learning curve:** Be prepared for the interns to take longer than professional staff to complete a screening (8 to 15 hours, versus 1 to 4 hours), and account for this additional time in your expectations and schedules.



- **Evaluate and improve:** Evaluate the interns' work along the way to check for thoroughness of information and to validate their recommendations to see if any modifications to the training are needed.

If you would like to discuss the concepts presented in this paper in further detail, please contact Fuentek president Laura Schoppe (919-249-0327 or info@fuentek.com).