

# INDUSTRIAL BIOTECHNOLOGY INTERNSHIP

2011

PROJECT/EVENT: HIGH SCHOOL SUMMER INTERNSHIP

ORGANIZER: COSENZA

## Broad overview of Company High School Internship.

Six phases are proposed, the Follow On Work Study is optional. The first three phases involve working with a school district to set up an internship and recruit candidates. The actual internship runs for six weeks during the summer break; starting just after Independence Day and terminating middle of August. An intern evaluation and reporting period follow the internship and are used to provide feedback to the interns and school district.

PROJECT PHASE	STARTING	ENDING
Recruit School District	4.1.2011	4.30.2011
Post Internship at High School	5.2.2011	5.31.2011
Interview & Select Candidate Interns	6.1.2011	6.24.2011
Internship	7.11.2011	8.19.2011
Certificates & Evaluations	8.22.2011	8.26.2011
Intern Progress Report	9.5.2011	9.16.2011
Follow On Work Study (Option)	10.3.2011	12.23.2011
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## **Industrial Biotechnology High School Internship Program Phases**

### **Recruit School District**

Each school district has unique population and set of goals and objectives. An industrial biotechnology company may need to interview several districts to identify those willing to allow an internship. Local Industrial and Economic Development Agencies may facilitate identify the best candidate school district to operate in. Once a district is selected the School Board will require time to meet, review and vote on the proposed Internship program

### **Post Internship at High School**

Identification and acceptance by a school district is required prior to informing high school student population about the internship. Recruiting materials are required and may consist of Project Descriptions, Job Description, Candidate Qualifications, Duration, Work Hours, Company Contact Information and Pay Scale.

### **Interview & Select Candidate Interns**

In conjunction with the school administration and teaching staff candidates may be selected for interview. Candidate interns are interviewed for availability, interest, maturity and personality. Seniors are ideal targets for internship. Prior to offering an internship the interview process should include a conversation with selected candidate's parent(s) or guardian(s). Internships are awarded to those candidates that meet all work requirements and have family support. Selected interns are notified in writing; the award letter should include a date and time for orientation and a list of materials to bring. Materials to bring to orientation may include a signed acceptance form, work papers, Form W4, Form I-9 Employment Eligibility Verification, and a copy of Confidential and Invention Assignment agreement.

### **Internship**

The internship duration is an estimated six weeks during the summer break. The internship can have two aspects, the physical work and intellectual pursuits. The physical work encompasses all activities required to meet project goals. Intellectual pursuits are related to intern's interest in biotechnology. Areas of interest may be provided by the intern or listed by the company. Ideally these areas of interest are related to the company's goals and markets of interest. The internship begins with a paid orientation that involves defining the overall project and goals of the program, completing and signing all company, state and federal paper work. The orientation should also be used to collect emergency contact information, distribute safety and injury prevention programs and familiarize interns with time sheets, laboratory note books, and typical work day activities. Interns are asked to write down their expectations for the internship; what is it that each individual is seeking to attain from participation. Each week of the internship has specified objectives which require the development of various skill sets. A typical day begins with a discussion regarding that day's activities; this includes a brief introduction to particular methodologies and technologies required to perform duties. During the discussion various informational aspects of the required work are delivered and the anticipated outcome defined. Results from previous efforts may be discussed and required supporting material, standard operating protocols (SOPs), safety materials and anything else provided. Specific work tasks assigned and the group enters the laboratory to complete that days tasks. During slow times in the internship intellectual pursuits are explored with the anticipation of developing one or more ideas for subsequent internships, granting and potential commercialization efforts. If an idea is accepted and adopted by the company the intern(s) may elect to continue to develop the intellectual pursuit as a grant application or commercialization plan in a Follow On Work Study option.

### **Certificates & Evaluations**

The internship is completed at the end of six weeks. The summer interns are given a work evaluation. Discussions related to each individual's strengths and weaknesses are performed. All individuals are scored and the internship compared to their expectations. These evaluations form part of a progress report that is provided to the school district. Finally, certificates and letters of reference are distributed.

### **Intern Progress Report**

A progress report is generated detailing the work related to obtaining project goals, intern development and outcomes. The report may include a list of important observations, publications and intellectual pursuits developed by the interns that are of interest to the company. The products of the intellectual pursuits may form the bases for Follow On Work Study on behalf of the intern(s).

### **Follow On Work Study (Option)**

This phase of the internship is optional. In general high school students have limited time to work during the school year. Furthermore depending on their age, status (freshman, junior, senior etc) and if monetary remuneration is available affects how and when the student can work / interact with the company. C2 Biotechnologies LLC, has used the Follow On Work Study to work with seniors to prepare and submit granting applications based on intern(s) intellectual pursuits. This interaction was classified as a Work Study Project by the school because money was not involved but literature reviews and communication skills were developed. This required a company employee to meet for 1 hr two or three times a week with students after school to write a SBIR Phase I application. The draft application required the students to use proper English to communicate a potential commercialization project for review and funding to a federal institution. The draft document was submitted to the school English Department for review thus meeting Work Study requirements.

Note:

The Follow On Work Study has interesting consequences. The first is if the SBIR application is awarded the students that submitted the application may become the company's employee on that project. Thus the internship becomes a work force training program for the company and the school district. Second, if an intellectual pursuit becomes a commercialization event it may be prudent for corporate culture to provide a small revenue stream back into that school district. On a company by company or technology by technology comparison the revenue stream back into the school district is small but over time can add up to a point where school district operating expenses may be funded. This would have dramatic impacts on school district taxes.