UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

EP.11.11

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820

October 12, 2010

Abbas Aminmansour, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Aminmansour:

Enclosed is a copy of a proposal from the Graduate College and the College of Liberal Arts and Sciences to establish a Professional Science Master's concentration in the MS in Plant Biology. All degrees offered through the Professional Science Master's program will be designated as self-supporting.

This proposal has been approved by the College of Liberal Arts and Sciences Committee on Courses and Curricula, Dean's Cabinet and Executive Committee on behalf of the Faculty of the College as well as the Graduate College. It now requires Senate review.

Sincerely,

Kristi A. Kuntz
Assistant Provost

KAK/njh

Enclosures

c: E. DeLucia
A. Golato
F. Hu
A. Mester
K. Sightler

telephone (217) 333-6677 • *fax* (217) 244-5639
url www.provost.illinois.edu

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

Graduate College
204 Coble Hall, MC-322
801 South Wright Street
Champaign, IL 61820-6210
www.grad.illinois.edu

October 11, 2010

Kristi Kuntz
Assistant Provost
Office of the Provost
207 Swanlund, MC-304

Dear Kristi:

Enclosed is the proposal entitled "Establish a Professional Science Master's Concentration within the Master of Science in Plant Biology in the Department of Plant Biology." The Graduate College Executive Committee did vote unanimously to approve it.

I send it to you now for further review.

Sincerely,

Andrea Golato
Associate Dean, Graduate College

Enclosure

cc: Evan DeLucia
Ann M. Mester
Feng Sheng Hu
Kevin Sightler

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Dean

College of Liberal Arts and Sciences
294 Lincoln Hall
702 South Wright Street
Urbana, IL 61801-3631

September 14, 2010

Andrea Golato
Associate Dean
Graduate College
204 Coble Hall MC-322

Dear Dean Golato:

The Committee on Courses and Curricula, Dean's Cabinet, and Executive Committee on behalf of the Faculty of the College of Liberal Arts and Sciences has voted to approve the following proposal:

Establish a Professional Science Master's Concentration within the Master of Science in Plant Biology in the Department of Plant Biology

Please address all correspondence concerning this proposal to me. This proposal is now ready for review by the Graduate College for proposed implementation Fall 2011.

Sincerely,

Ann M. Mester
Associate Dean

enclosures
C: Professor Evan DeLucia
Professor Feng Sheng Hu

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE: Establish a Professional Science Master's Concentration within the Master of Science in Plant Biology in the Department of Plant Biology, College of LAS

SPONSOR: Feng Sheng Hu, Professor and Head, Department of Plant Biology, 244-2982, fshu@life.illinois.edu.

COLLEGE CONTACT: Ann Mester, Associate Dean, LAS, 333-1350, mester@illinois.edu.

BRIEF DESCRIPTION: The Department of Plant Biology seeks to add a Professional Science Master's Concentration to its Masters of Science in Plant Biology Degree. The program will be jointly administered by the Department of Plant Biology and the Illinois Professional Science Master's (PSM) program, a unit of the Graduate College. The program will serve students seeking a terminal master's degree (i.e., not necessarily en-route to the doctorate) as enhanced preparation for careers in plant science and related areas that are combined with business-related responsibilities. The College of LAS and the Graduate College want to launch this new program in Fall 2011. The program will be a three-semester, one summer term, non-thesis, self-supporting M.S. degree program. The program will require 42 credit hours total: 32 hours of the plant biology curriculum and 10 hours of the PSM concentration. A summer internship and three semesters of industry seminars will be required (0 hours). This degree program should be particularly attractive to those seeking mid-level management positions in agricultural, biological, or environmental technology organizations. Graduates of the program will be ideally suited for positions as project managers. Financial assistance in the form of full or partial waiver of tuition and fees will not be available (except for statutory waivers).

JUSTIFICATION: A recent study from the National Research Council [Colwell, R. (2008) Bioscience 58: 3] has concluded that innovative training at the master's level that matches scientific knowledge with professional business skills will be an important component of the US educational system to meet society's needs in the 21st century. The Professional Science Master's degree programs are such innovative, interdisciplinary programs targeting specific areas of technology that may provide the technology-based sector (both public and private) with the competitive edge that the MBA programs provided to 20th century business [Tobias, S. (2009) Science News 175: 32]. Broad public support for the concept of PSMs is evidenced by the allocation of $15M of the 2009

stimulus bill to the development of new PSM programs.[1] The proposed program in plant biology is intended to be an interdisciplinary program to provide scientific training in plant biotechnology, spanning fundamental to applied aspects, with professional business content in technology and innovation management, accounting and finance, human resources, project management, marketing, global strategy, and more. To determine level of interest in the proposed program, the Department of Plant Biology, through Illinois Business Consulting (IBC), conducted a market interest survey of prospective students and employers. Roughly 150 Illinois undergraduates in the Colleges of ACES and LAS responded. They were given a brief description of the program and then asked about their level of interest in the 3-semester/1-summer program in plant biology. Nearly 48% of the respondents were 'somewhat' or 'very interested' in the program, which is taken as evidence of strong interest on the part of undergraduates at this institution and likely, others, in this particular area. It is anticipated that graduates of this program will find potential employment in mid-level management involving research, development, marketing, and sales in the private sector as well as corresponding positions in non-profit or governmental organizations. Their training in project management through the business curriculum will make our graduates ideally suited for positions as project managers and other mid-level managerial positions. Interest on the part of the private sector was confirmed in telephone interviews conducted by IBC with four international companies involved in plant biology. The survey and summary of results are in Attachment 1.

There are currently about 120 PSM programs at universities across the country, and of the 48 that are in the general field of Biology, 24 of these focus on Biotechnology (http://www.sciencemasters.com/). However, there are no current programs that focus on plant biology and hence the new program would fill a unique niche.

BUDGETARY AND STAFF IMPLICATIONS: (Please respond to each of the following questions. Place your response right after each item. See ***Appendix A*** for additional information.).

a. Additional staff and dollars needed. Once fully operational, the PSM program described here is intended to generate sufficient new revenue from tuition to more than meet its operating costs. It is anticipated that a program coordinator would be essential to oversee the program and provide the necessary advising for PBT graduate students once established. In addition, prior to launch of the program, it would be desirable to have the coordinator in place to advertise the program and recruit students, to establish liaisons with relevant plant biology groups and industries for future internship opportunities, and to identify plant biology-specific curriculum topics to include in the science and business courses. The coordinator could be an Academic Professional, and the Director of the School of Integrative Biology has pledged 2 years of salary support to facilitate this effort. The coordinator position will be sustained with tuition revenue from the PSM Program after the initial period. All of the activities of the coordinator would be in conjunction with a Plant Biology

[1] http://www.rules.house.gov/bills_details.aspx?NewsID=4149

faculty member (to be named). The estimated cost of this position is $40,000 - $45,000 per year based on current salaries of U of I academic advisors. At current tuition and fee rates, breakeven enrollment to cover this cost is six students. For estimated enrollment and revenue projections, refer to Attachment 2. It is anticipated that existing secretarial and administrative staff in the Plant Biology and School of Integrative Biology offices will be able to handle the extra work load from this program.

b. Internal reallocations (e.g., change in class size, teaching loads, student-faculty ratio, etc.) It is anticipated that a maximum of 10 to 15 PBT MS students will be in the program at any given time at steady state (approximately three years). The core courses that are required of these students have been approved and staffed, but new courses may be considered as the program develops, at which time tuition revenue from the PSM program will be used to fund the continued growth of the program. Average enrollment in the integrative biology (IB) courses in the proposed curriculum has been 12 students (AY 06-AY 10); the department has indicated that the additional enrollments can be accommodated without adding more course sections.

c. Effect on course enrollment in other units and explanations of discussions with representatives of those departments. Student enrollment targets for the PSM program are optimistically estimated at 5 to 10 students each year. Therefore, within three years, we anticipate 10-15 students in the PSM Option. As with internal reallocations, the relatively low numbers, and the fact that most of the courses required in this new program are within our department, will result in minimal impact. The impact on individual courses in specific semesters is likely to be a few students, at most. The other unit delivering instruction for this program is the Department of Crop Sciences (CPSC). Average enrollment in the CPSC courses in the proposed curriculum has been 46 students (AY 06-AY 10). The department has indicated that it can accommodate increased enrollments from students in the proposed program at no marginal cost (see department chair's letter of support).

d. Impact on the University Library, computer use, laboratory use, equipment, etc. A letter of endorsement from University Librarian Paula Kaufman is attached to this proposal.

e. Impact on computer use, laboratory use, equipment, etc. Given that we expect the growth in the new program to be gradual for the first few years as it becomes established, the impact on resource requirements will be minimal. As numbers increase, the revenue generated as a result of the PSM component of the program will support any required additional resources.

DESIRED EFFECTIVE DATE: Fall 2011

STATEMENT FOR PROGRAMS OF STUDY CATALOG:

Graduate Degree Programs

The Department of Plant Biology offers three graduate programs leading to the Master of Science degrees (the traditional thesis option, the non-thesis option, and the non-thesis Professional Science Master's (PSM) concentration that integrates business content) and a Doctor of Philosophy degree. It also participates in two interdepartmental programs leading to a doctoral degree: Program in Physiological and Molecular Plant Biology, and the Program in Ecology, Evolution and Conservation Biology. In addition, students can participate, during their degree programs, in several non-degree granting interdepartmental programs and interest groups, such as the Cell and Molecular Biology Training Program and the Systematics and Biodiversity Group.

The Department teaches and conducts research in basic plant biology. Its focus is integrative: biological processes are investigated at multiple levels of organization using molecular, biochemical, physiological, and ecological approaches. Areas of specialization within the department include biochemistry, biodiversity, bioinformatics, cell biology, conservation biology, development, ecology, environmental physiology, evolution, genetics, genomics, modeling, molecular biology, mycology, paleoecology, photosynthesis, phytochemistry, population biology, systems biology and systematics. Graduate students acquire reasonable breadth in their overall biological and professional training as well as expert-level depth in their areas of specialization.

The Plant Biology Departmental website (www.life.uiuc.edu/plantbio) provides additional information about the department, its admissions procedures, degree requirements, facilities, and the research interests of its faculty.

Admission

Prospective students are encouraged to identify faculty member(s) whose research specialty(ies) most closely coincide(s) with their interests and correspond directly with them. Acceptance for thesis-option graduate study in Plant Biology is based on the applicant's academic achievement and research potential, acceptance for the non-thesis option is based on the applicant's academic achievement, and acceptance into the PSM program is based on academic achievement and interest in business applications. While departmental requirements do not specify particular courses as prerequisites for admission, applicants should have had an undergraduate degree in biology or related sciences. Admission to the graduate program requires an undergraduate grade point average of at least 3.0 (A = 4.0). Graduate Record Examination (GRE) scores are required; however no minimum scores are specified for admission. An advanced subject test is recommended. International students should have a Test of English as a Foreign Language (TOEFL) score of 600 or above on the paper-based test, or 250 or above on the computer-based test (cBT) or 102 or above on the internet-based test (iBT).

Degree Requirements

For additional details and requirements, please refer to the Plant Biology Department's online Graduate Handbook and the University's Graduate College Handbook.

Master of Science

Required Courses:	Thesis option - Required Hours	Non-thesis option - Required Hours	PSM Concentration- Required Hours
Course hours distributed among three of the following areas: anatomy, biochemistry, development, ecology, evolution, genetics, molecular biology, physiology, and systematics (4 of these hours must be outside the immediate research interests of the student)	12	12	12
Individual Topics, IB 590 (min/max applied toward degree)		max 8	
Electives in consultation with and by permission of advisor	12-20	12-20	20
Language Requirement	Discretion of advisor	Discretion of advisor	Discretion of advisor
PSM Concentration (ACCY 500, BADM 595, BADM 596, BADM 597, BADM 598, FIN 500, LER 512, LER 524)	N/A	N/A	10
Internship (PSM 555)	N/A	N/A	0
PSM Seminars (PSM 501, 502 and 503)	N/A	N/A	0
Thesis Hours Required (min/max applied toward degree):	max 8	0	0
Total Hours	**32**	**32**	**42**
Minimum 500-level Hours Required Overall:	12	12	12
Other Requirements:*			Transfer credit, from Illinois or from other institutions,

			is not permitted.
			Students must enroll full-time (i.e., 12 or more hours) in fall and spring terms.
			Students taking IB 590 are limited to 10 hours maximum
Minimum GPA:	3.0	3.0	3.0

The requirement of a thesis for the M.S. degree in Plant Biology is determined in consultation with the candidate's adviser. The program is normally completed within two years. Candidates are expected to complete at least 32 semester hours of graduate coursework and research agreed upon with a faculty adviser. For students in the PSM concentration, enrollment in PSM 555 is required in the summer term during which the internship is completed; PSM-specific summer tuition is assessed.

Financial Aid

Financial assistance in the form of full or partial waiver of tuition and fees is not available to Illinois PSM students (except statutory waivers). For all other students, fellowships, teaching assistantships, and research assistantships are available for qualified students. Fellowships are awarded on a competitive basis.

RECEIVED
SEP 17 2010
GRADUATE COLLEGE

CLEARANCES: *(Clearances should include signatures and dates of approval) - - These signatures must appear on a separate sheet. If multiple departments or colleges, add lines.)*

Signatures:

School of Integrative Biology, Director

Unit Representative: Dept of Plant Biology, Head — Date: Sept 2, 2010

College Representative: — Date: Sept 15, 2010

Graduate College Representative: — Date: Oct 11, 2010

Provost Representative: — Date:

Educational Policy Committee Representative: — Date:

Appendix A:
(Notes on Budgetary and Staff Implications)

New Degree Programs – Required Budgetary Implication Questions

1) How does the unit intend to financially support this program?

Once fully operational, the PSM program described here is intended to generate sufficient new revenue from tuition to more than meet its operating costs. For estimated enrollment and revenue projections, refer to Attachment 2.

2) Will the unit need to seek campus or other external resources?
No.

3) If no new resources are required, how will the unit create capacity or surplus to appropriately resource this program? (What functions or programs will the unit no longer support?)

Refer to page 2, Budgetary and Staff Implications, parts a and b.

4) Please provide a market analysis: What market indicators are driving this proposal? What type of employment outlook should these graduates expect? What resources will be required to assist students with job placement?

See attachment 1.

5) If this is a proposed graduate program, please discuss the programs intended use of waivers. If the program is dependent on waivers, how will the unit compensate for lost tuition revenue?

Financial assistance in the form of full or partial waiver of tuition and fees will not be available (except for statutory waivers).

Appendix B: Proposed Sequencing for the M.S. Degree in Plant Biology and Concentration in Professional Science Masters (PSM). The major courses below are suggestions and are listed to show one possible sequence of courses. Specific courses are selected in consultation between student and advisor. Course selection is based on the student's interests and career plans; course selection is by permission of the student's advisor.

Year 1

Fall Semester (2011):

Plant Biology Coursework

• IB 421	Photosynthesis	TR	9:30-10:50	(3)
• CPSC 590	Professionalism & Ethics	T	3-4:50	(2)
• IB 424	Plant Development	MWF	1-1:50	(3)
• IB 496	Readings in Development	TBA		(1)

PSM Concentration

• LER 512	People, Technology & Work	(2)
• PSM 501	PSM Seminar I *	(0)
• ACCY 500	Accounting Management	(1)
• FIN 500	Intro to Finance	(1)

Spring Semester (2012):

Plant Biology coursework

Pick one of the following:

• IB420/CPSC 484	Plant Physiology	TR	1-2:30	(3)
• CPSC 566	Plant Gene Regulation	MWF	11-11:50	(4)

Pick 2 of the following:

• IB 440	Plants and Global Change	MWF	1-2:20	(3)
• IB505/CPSC567	Bioinform and Systems Biol	MW	9-10:50	(4)
• CPSC 588	Plant Biochem (online)	T	6:30-9P	(4)
• CPSC 563	Molecular Cytogenetics			(3)

PSM Concentration coursework

• BADM 598	Managing Technology	(1)
• BADM 597	Global Strategy	(1)
• LER 524	Human Resource Mgmt	(2)
• PSM 502	PSM Industry II	(0)

Summer Semester (2012):

• PSM 555	PSM Internship	(0)

Year 2

Fall Semester (2012):

• IB 472	Plant Molecular Biology	TR	10:00-10:50 (1st half) (1)
• IB 474	Plant Proteomics	TR	11:00-11:50 (1st half)(1)
• IB 473	Plant Genomics	TR	10:00-10:50 (2nd half)(1)
• IB 475	Plant Metabolomics	TR	11:00-11:50 (2nd half)(1)

Pick 2 of the following:

• CPSC 440	Statistics		(4)
• IB 425	Plant Secondary Metabolism	MWF 8:00-8:50	(3)
• CPSC 499	Genomics for Crop Improvement	MWF 11-11:50 (2nd)	(2)

PSM Concentration Coursework

• PSM 503	PSM Seminar III	(0)
• BADM 596	Entrepreneurship	(1)
• BADM 595	Marketing	(1)

* Graduates are expected to be socially and politically literate to successfully manage workplace responsibilities and broader, discretionary responsibilities. The Illinois PSM seminars (PSM 501, 502, and 503) cover, in part, behavioral dimensions at the interface between science and business. Seminar topics include ethics and the responsible conduct of research; political and regulatory environments relative to new product development and intellectual properties; and the social and cultural environment of science-based enterprises.

The role of ethics and social responsibility, reflective of Resnik's essay[2] on research ethics, is embedded in the seminars around the themes of

* building public support for and trust in science,
* promoting the aims of science and the scientific process,
* providing the basis for professional accountability, and
* supporting collaborative work.

Issues such as product safety, environmental ethics, and medical and technology ethics may be explored along with emerging issues such as genetically modified organisms, stem cell research, and nanotechnology. Social and political dimensions are likewise embedded within several courses in the "plus curriculum" -- cultural variations in international business ventures (BADM 597); the ethics and social responsibility of financial reporting (ACCY 500 and FIN 500); the role of technology in society (LER 512); and social responsibilities in managing human resources (LER 524).

[2] http://www.niehs.nih.gov/research/resources/bioethics/whatis.cfm

Appendix C. Key Features of the PSM Concentration to be Coupled with the M.S. in Plant Biology Required Courses

There are three components of the PSM concentration:

1. Business curriculum (courses listed in table below)
2. Industry seminar series (PSM 501, 502, and 503)
3. Internship (PSM 555)

Business Curriculum (10 hours)

The business curriculum is a sequence of eight courses jointly delivered by the School of Labor and Employment Relations (LER) and the College of Business. These courses, common across all PSM programs, are intended to provide PSM students with core business knowledge and skills. In addition, the courses also will provide students with the behavioral skills important in the business world, in particular, communication skills, team building, and conflict resolution. Furthermore, students will develop an understanding of ethics and intellectual property, as it applies to science and the biotech industry. The business curriculum totals 10 semester credit hours in an intensive, focused delivery. The requirements are summarized below.

Term / Semester	Course	Title	Instructional Unit	Credit Hours
1 - Fall	ACCY 500	Accounting Measurement, Reporting and Control	Business	1
1 - Fall	FIN 500	Intro to Finance	Business	1
1 - Fall	LER 512	People, Technology & Work	LER	2
2 - Spring	BADM 598	Managing Technology & Innovation	Business	1
2 - Spring	BADM 597	Global Strategy	Business	1
2 - Spring	LER 524	Human Resource Management for Scientists and Engineers	LER	2
3 - Fall	BADM 596	Entrepreneurship for Professional Scientists	Business	1
3 - Fall	BADM 595	Marketing for Professional Scientists	Business	1

Industry Seminar Series (0 hours)

The industry seminars provide opportunities for intellectual and social engagement for students across Illinois PSM programs. The seminars extend the professional preparation provided in the business curriculum. A key element of the seminar is invited guest lecturers in significant science-related leadership roles from business, industry, and governmental organizations. Discussions will center on the problems and challenges introduced by the guest lecturer. All PSM students will enroll in a common seminar each

semester, blending students from multiple disciplines to explore issues in common. Students in PSM programs have similar career aspirations and will thus benefit from exploring management, leadership, and career development issues together. Students will have the opportunity to learn about these issues not only as they relate to their specific area of study, but also to those in other Illinois PSM programs. PSM students will enroll in the seminar each semester in which they are enrolled in the cohort program (PSM 501, 502 and 503, respectively), excluding summer. In the final semester seminar, an emphasis is on learning from the internship experience during the preceding summer term and mentoring first semester students who are preparing for the internship. These courses carry 0 credit hours and assign S/U (satisfactory/unsatisfactory) grades.

Internship (0 hours)

The internship is judged a necessary component of a professional graduate degree program whose goal is to produce graduates proficient in their science area of study with the knowledge, skills, and abilities to apply their proficiency to managerial and leadership challenges of business, government, and not-for-profits. Nationally, the majority of PSM programs require internships. Having completed two semesters of full-time graduate study before the internship, students will have had adequate science and business coursework to prepare them for work experiences in organizations. First semester students will be paired with third semester students for internship mentoring. Students will formulate plans for securing an internship early in their first semester of study as part of the required industry seminar series (PSM 501) and will implement plans no later than the beginning of their second semester of study. Students will evaluate their internship experience as part of their third semester industry seminar (PSM 503). Students complete one semester of full-time study after the internship is completed. The criteria for selection of internship companies and positions are determined for each student individually. In consultation with the program coordinator, students find internship companies and positions that match their individual career objectives and meet the learning goals of the program. The Illinois PSM, the academic program, and the student have joint responsibility for securing the internship. In the event that a traditional internship cannot be obtained by the student, the PSM coordinator would work with faculty in the department to identify translational research experiences consistent with the combined science-business model embodied by the PSM program. The program coordinator determines student deliverables and evaluation criteria and assigns course grades (S/U only). For internationals holding student visas, internships are considered curriculum practical training (CPT) and must be authorized in advance by International Student and Scholar Services.

Appendix D. Approvals to include courses from supporting disciplines for the proposed MS in Plant Biology.

Reformatted response from the Department of Crop Sciences, June 21, 2010.

[Note: in response to this message, CPSC 465 was removed and CPSC 563 was added to the list of courses.]

Kolb, Fred wrote:

Hi Steve,

Sorry to be slow to reply. This is a busy time! Here's the status of the classes you listed and a few comments for you.

CPSC 465 Ethics and Biotech Controlled by NRES, cross-listed in CPSC - seldom offered
I'd suggest not including this class (CPSC 465).

CPSC 590 Professionalism & Ethics offered each fall, enrollment 5 + NRES enrolled students

CPSC 566 Plant Gene Regulation offered each spring, enrollment 19

CPSC 588 Plant Biochem (online) Offered Fall of odd years, enrollment 5

CPSC 440 Statistics Offered each semester, enrollment 128

CPSC 499 Genomics for Crop Improvement See below
Change number to CPSC 466 Genomics for Plant Improvement
Offered each Fall - 2nd eight weeks, enrollment 22

The Crop Sciences Department is in favor of including all of these classes except CPSC 465. We anticipate that all of these classes will continue to be offered (except CPSC 465). The additional students will be beneficial -capacity is available in the classes. I've added the enrollments for the last time each class was offered. Another class that you may want to consider is CPSC 563 Molecular Cytogenetics taught by Lane Rayburn.

Best Regards,
Fred

Frederic L. Kolb
Cavanah Professor of Plant Breeding and Genetics
Crop Sciences Teaching Coordinator
Department of Crop Sciences
University of Illinois
1102 S. Goodwin Ave.
Urbana, IL 61801

Ph (217) 333-9485
f-kolb@illinois.edu

-----Original Message-----
From: Steven Huber [mailto:schuber1@illinois.edu]
Sent: Friday, June 04, 2010 2:08 PM
To: Kolb, Fred
Cc: Conatser, Sharon; Sightler, Kevin W; Feng Sheng Hu
Subject: Course information

Dear Fred:

Attached is a draft of a proposal that is being prepared for submission to the Senate Ed Pol Committee for a new major in Plant Biology with Graduate Concentration in the Professional Science Master's Program. The program will be based in the Department of Plant Biology in LAS, but potential courses will include some in Crop Science as well (see attachment). Hence, we need a brief statement from you or someone in your department that these courses will likely be offered in the future and that inclusion of these courses in this set of offerings is acceptable. We anticipate that each fall a new cohort of about 5 students might be admitted so that at any given time there would be a total of no more than 15 students total in the program. Hence the impact on enrollment in your courses should be beneficial and not burdensome. If you could address this specifically in your response with any past enrollment numbers that you might have that would be ideal.

The relevant courses include:

CPSC 465	Ethics and Biotech
CPSC 590	Professionalism & Ethics
CPSC 566	Plant Gene Regulation
CPSC 588	Plant Biochem (online)
CPSC 440	Statistics
CPSC 499	Genomics for Crop Improvement

Please let me know if you have any questions or if I can help in any way.

Thanks!
steve

--

Steven C. Huber

USDA Plant Physiologist
Professor of Plant Biology and Crop Sciences
University of Illinois
1201 W. Gregory Drive, 197 ERML
Urbana, IL 61801

Tel: 217-265-0909
Fax: 217-244-4419

July 2, 2010

Feng Sheng Hu,
Professor and Head, Department of Plant Biology
University of Illinois
265 Morrill Hall
505 S. Goodwin Avenue
Urbana, IL 61801

Dear Dr. Hu:

Thank you for giving the University Library the opportunity to review the Department of Plant Biology's proposal to the Senate Committee on Educational Policy to establish a new Establish a Master of Science in Plant Biology with a Concentration in Professional Science Master's. Based upon the proposal that we reviewed, it is our understanding that this degree will provide an option for those students seeking a terminal master's degree (i.e., not necessarily en-route to the doctorate) as an option for preparing themselves for careers in plant science and related areas that are combined with business-related responsibilities. After being reviewed by two of our subject specialists, the proposal materials that you provided to the University Library do not lead any of us to believe that there will be an appreciable impact on our operations or collections.

If additional services or materials are required as the program develops, we will be happy to discuss securing the requisite resources with the program sponsors.

Sincerely,

Paula Kaufman
University Librarian and Dean of Libraries

Cc: Thomas Teper
Katie Newman
Diane Schmidt

From: DeBrock, Larry [mailto:ldebrock@illinois.edu]
Sent: Friday, October 29, 2010 8:25 AM
To: Sightler, Kevin W
Cc: Carroll, Sandra
Subject: RE: Proposed Illinois PSM in Plant Biology

Kevin;
After discussing this with Sandy Carroll, the college would be happy to allow those students into the PSM offerings.
Thanks.
-larry

From: Sightler, Kevin W [mailto:sightler@illinois.edu]
Sent: Thursday, October 28, 2010 4:45 PM
To: DeBrock, Larry
Subject: Proposed Illinois PSM in Plant Biology

Dear Dean DeBrock,

The Department of Plant Biology has proposed an M.S. degree program in plant biology. The program will be paired with the Illinois Professional Science Master's concentration. At steady-state (approximately three years), we estimate 10 students will enroll in each cohort. Students will take the established sequence of PSM-specific courses, including those currently offered by the College of Business:

ACCY 500 - Accounting Measurement, Reporting and Control
BADM 595 - Marketing for Professional Scientists
BADM 596 - Entrepreneurship for Professional Scientists
BADM 597 - Global Strategy
BADM 598 - Managing Technology & Innovation
FIN 500 - Introduction to Finance

The proposal is currently pending with the Senate Committee on Educational Policy. They have asked for confirmation from you that students in the proposed program will be allowed to take the courses offered in your college and that there is sufficient capacity to accommodate the additional students.

A timely reply is appreciated to accommodate the Committee's next meeting on November 8. An e-mail reply is sufficient.

Should you have any questions, please let me know. Thank you.

Best regards,
Kevin Sightler

From: Cutcher-Gershenfeld, Joel Ethan
Sent: Friday, October 29, 2010 1:51 PM
To: Sightler, Kevin W
Subject: Proposed Illinois PSM in Plant Biology

Dear Kevin:

LER confirms that students in the proposed Plant Biology program will be allowed to take the two courses offered in through our school (at the established reimbursement rates) and that there is sufficient capacity to accommodate the additional students as projected.

Best,
Joel

Joel Cutcher-Gershenfeld
Dean and Professor
School of Labor and Employment Relations
University of Illinois
504 East Armory Avenue
Champaign, IL 61820
217/333-1454 (office)
217/979-3771 (cell)
joelcg@illinois.edu
Invest in LER

From: Sightler, Kevin W
Sent: Thursday, October 28, 2010 4:38 PM
To: Cutcher-Gershenfeld, Joel Ethan
Subject: Proposed Illinois PSM in Plant Biology

Dear Dean Cutcher-Gershenfeld,

The Department of Plant Biology has proposed an M.S. degree program in plant biology. The program will be paired with the Illinois Professional Science Master's concentration. At steady-state (approximately three years), we estimate about 10 students will enroll in each cohort. Students will take the established sequence of PSM-specific courses, including the two courses currently offered by the School of Labor and Employment Relations:

LER 512 - People, Technology & Work
LER 524 - Human Resource Management for Scientists and Engineers

The proposal is currently pending with the Senate Committee on Educational Policy. They have asked for confirmation from you that students in the proposed program will be

allowed to take the courses offered in your school and that there is sufficient capacity to accommodate the additional students.

A timely reply is appreciated to accommodate the Committee's next meeting on November 8. An e-mail reply is sufficient.

Should you have any questions, please let me know. Thank you.

My best,
Kevin Sightler

Kevin Sightler
Director, Illinois Professional Science Master's
University of Illinois at Urbana-Champaign
http://psm.illinois.edu
phone 217-265-5363

Subject: PSM Concentration - Plant Biology [EP11.11]
Date: Wed, 10 Nov 2010 10:42:52 -0600
From: Feng Sheng Hu <fshu@life.illinois.edu>
To: Steve Huber <schuber1@life.illinois.edu>

Dear Steve:

Thank you for forwarding the comments on the Plant Biol PSM proposal from the Senate EdPol Committee. In the unlikely event that traditional internship opportunities cannot be obtained for students in the Plant Bio PSM, as Department Head I would work with you and the PSM coordinator to identify translational research experiences consistent with the combined science-business model embodied by the program. These translational research experiences might involve creating a marketing plan for a new biotechnology product, or developing a management plan for bringing a new biotech product to market.

Best wishes,
Feng Sheng

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Feng Sheng Hu
Professor and Head
Department of Plant Biology
Professor
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Scope of Engagement Work

The overall objective of this engagement is to determine the interest level in a potential new graduate program at the University of Illinois, a Professional Science Master's degree in Biotechnology. The interest will be determined from both the prospective student level and potential employee level.

- Estimate the interest the U of I student population would have in a PSM in Biotechnology
  - Develop a survey that would demonstrate respondents interest in program and preference in curriculum
  - Distribute survey to key targets in ACES college and MCB/IB departments
- Determine interest in potential employers of graduate of program
  - Find contacts at list of organization provided
  - Estimate employer interest in program
  - Determine preference in curriculum and other recommendations from employers

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The PSM in Biotechnology

- The PSM is a new type of master's degree that combines advanced study in science with business knowledge and skills, for people who want to work in managerial, science-based positions

- The BIOTECHNOLOGY program at Illinois would combine critical "real world" experience and knowledge of the legal, ethical and business issues of this field with a mastery of the scientific principles and knowledge relevant to biotechnological industries.

- Like other Illinois PSM programs, the BIOTECHNOLOGY program would be completed in 16 months – three semesters plus a summer internship.

- **How does a PSM differ from a tradition M.S. degree?**

- its lack of thesis requirement, applied focus, combination of coursework in science and business, and its internship.

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Summary of Findings

Students

- Demonstrated interest in this type of program
- Valued the ability to specialize in topics: animal or plant
- Cost and potential salaries could play a factor in enrollment
- Alternative to veterinary school

Employers

- Demonstrated interest in this type of program
- Saw the potential to develop project managers: a key position in the field
- Require hands on experience through lab work or internship
- Well rounded students are a bonus, but strong fundamental background is still necessary

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Student Analysis

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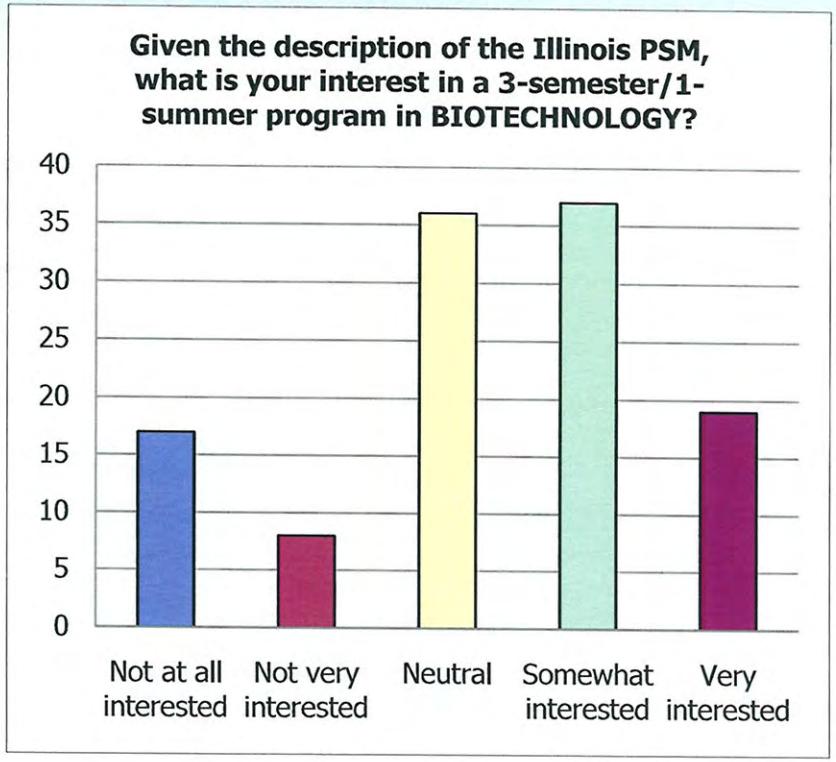
Summary of Survey

- **Total Survey Response**:
  - Total Surveyed: 155, Total Completed: 114

Freshman	50	ACES	103
Sophomore	29		
Junior	38	LAS	41
Senior	32		

- **Interest in an Illinois PSM:**
  - Only 25% of respondents had no interest in a biotechnology related career
  - The tuition and fees would have at least some impact on almost 75% of respondents
  - Twice as many people would be more interested in an animal specialization over plant
    40% in Animal vs. 19% in Plant



47% of respondents had interest in the program

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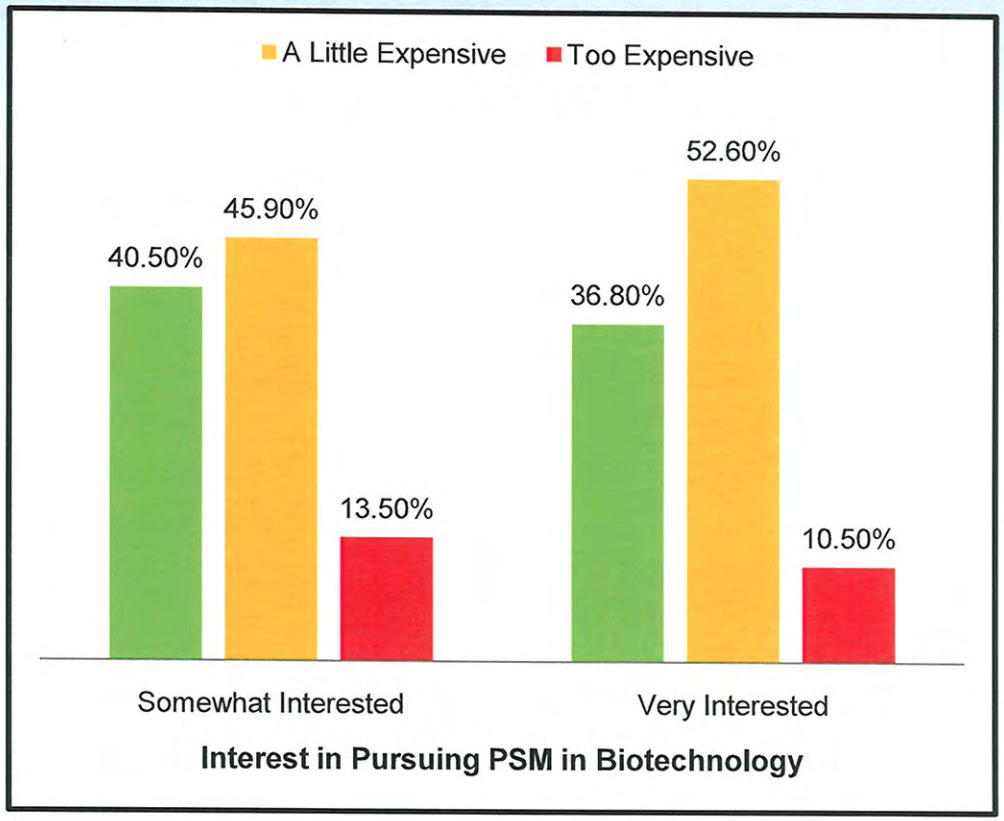
Cost of Program

- **Impact of Cost for Interested Students**
  - No Impact- 5.4%
  - Little Impact- 12.5%
  - Some Impact- 37.5%
  - Considerable Impact- 26.8%
  - Great Impact- 17.9%

- **Impact of Salary Potential on Interest**
  - No Impact- 3.6%
  - Little Impact- 10.9%
  - Some Impact- 43.6%
  - Considerable Impact- 30.9%
  - Great Impact- 10.9%



About 60% of interested respondents thought the program cost was expensive

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Student Preferences

Program

Top four important aspects

1. Faculty Accessibility
2. Hands on Experience with Lab Equipment
3. Internship/Real World Experience
4. Networking with Companies

Bottom two aspects

1. Small Class Size
2. Flexible Curriculum

Coursework

Top four important topics

1. Project Management
2. Strategy
3. Transitioning from Scientist to Manager
4. Technology and Innovation Management

Bottom two topics

1. Accountancy
2. Policy Studies

Students would most require access to faculty and real work experience through lab work or internship and learn about topics relating to managing a project

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Who is interested?

Students would most be interested in having the choice in specialization depending on their interest

Of the students that were "Very interested" in the program:

1. MCB students were interested in both Animal & Plant Biotechnology
2. Crop Science students were interested in Plant Biotechnology
   - CPSC 261 is a course in Biotechnology
3. There was a surprising interest from Animal Sciences majors who could use this program as an alternative to Vet school. An even larger number said they were "somewhat interested" in the program

75% had GPAS above 3.0

Students preference in a graduate program matched their choice for undergraduate study

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Employer Analysis

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Graduate Recruitment

What do you look for in an applicant with a graduate degree?

- Work experience, coursework, leadership and "academic experience"
- Lab and/or internship work is crucial to most firms
- GPA was weighted heavily at some firms

What positions are graduate school applicants appointed to?

- Some new hires are placed in managerial positions (DuPont)
- Others place new hires in a slightly higher role than undergrad hires, but have higher opportunities for promotion

Firms need to see applicable, hands-on experience from applicant

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PSM in Biotechnology

Where would a PSM in Biotechnology grad fit into your recruiting?

- Either advanced scientist or direct to manager

"Can see the truth in projects. Is this case worthy of what's going on? Ultimately these things have to make money." Larry Hagemen, DuPont

- Firms need lawyers and lab rats. PSM graduates are a way to connect the two sides while guiding business direction

- All the firms would consider graduates of this type of program for recruitment
    - Several go out and search for this type of training and these were the companies that saw the PSM as a way to train managers

Overall, employers seemed interested in PSM candidates

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Program Preferences

What topics need to be covered in a PSM in Biotechnology?

- **PROJECT MANAGEMENT-** The overwhelming response indicated that employers want applicants trained in seeing if a project has potential and managing it from a business standpoint

"They do not need have to be a PhD, but have to be able to interact with scientist to know… does this project have any merit or potential? They are not going to be in the lab, but are they going to be able to look at a project and be able to estimate what it is worth?" – Larry Hagemen, DuPont

- Technical Skills – Applicants need to a have a fundamental basis in science specific to firm
- Finance/Budgeting/Allocation of resources- General (not industry specific)
- Human Resources/Communication skills
- Hands on training is still extremely important

The training required depends on if the firm is looking for a manager or an advanced scientist

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Key Takeaways

There is strong demand of this type of program from both students and employers

Concerns to Students

- The cost of the program and potential salaries of graduates
- A well developed program with internships available and supportive organizations

Concerns to Employers

- Employers need to see well rounded students
- A foundation of technical skills and hands on experience

Biotechnology PSM Survey

1. Introduction

This survey is about a possible new master's degree program in BIOTECHNOLOGY at the University of Illinois at Urbana-Champaign.

Your input will help us determine level of interest in the program. You will also help us make important decision about courses, specializations, admissions, and more.

Please answer the following questions to tell us what you think.

Participation is voluntary and your answers are anonymous. Completing the survey will take about 5 to 10 minutes.

Thank you for your help.

For additional information about the program, a web address and email address are provided at the end of the survey.

Biotechnology PSM Survey

2. About the PSM Program

The BIOTECHNOLOGY master's degree would be part of the Illinois Professional Science Master's program – the Illinois PSM.

The PSM is a new type of master's degree that combines advanced study in science with business knowledge and skills. It's for people who want to work in science-based positions that also have managerial and leadership responsibilities. The PSM integrates experiences to develop behavioral skills highly valued by employers such as teambuilding, decision making, conflict resolution, communication, and visioning.

With experience, consulting scientist, clinical director, and technology transfer manager are a few of the positions for which PSM graduates would be well-suited.

The BIOTECHNOLOGY program at Illinois would combine critical "real world" experience and knowledge of the legal, ethical and business issues of this field with a mastery of the scientific principles and knowledge relevant to biotechnological industries. It would be distinguished from traditional M.S. degree programs by its lack of thesis requirement, applied focus, combination of coursework in science and business, and its internship. Like other Illinois PSM programs, the BIOTECHNOLOGY program would be completed in 16 months – three semesters plus a summer internship.

Biotechnology PSM Survey

1. Are you a student of the University of Illinois (or alumnus)?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Yes.	**97.4% (37)**	**94.7% (18)**	**96.5% (55)**
No.	2.6% (1)	5.3% (1)	3.5% (2)
answered question	38	19	**57**
		skipped question	**0**

2. Are you a graduate student?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Yes.	2.6% (1)	0.0% (0)	1.8% (1)
No.	**97.4% (37)**	**100.0% (19)**	**98.2% (56)**
answered question	38	19	**57**
		skipped question	**0**

3. In what college are you enrolled?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
College of Agricultural, Consumer and Environmental Sciences	**63.2% (24)**	47.4% (9)	**57.9% (33)**
College of Applied Health Sciences	2.6% (1)	0.0% (0)	1.8% (1)
College of Business	0.0% (0)	0.0% (0)	0.0% (0)
College of Education	0.0% (0)	0.0% (0)	0.0% (0)
College of Engineering	0.0% (0)	0.0% (0)	0.0% (0)
College of Fine and Applied Arts	0.0% (0)	0.0% (0)	0.0% (0)
College of Law	0.0% (0)	0.0% (0)	0.0% (0)
College of Liberal Arts and Sciences	34.2% (13)	**52.6% (10)**	40.4% (23)
College of Media	0.0% (0)	0.0% (0)	0.0% (0)
College of Medicine at Urbana-Champaign	0.0% (0)	0.0% (0)	0.0% (0)
College of Veterinary Medicine	0.0% (0)	0.0% (0)	0.0% (0)
Division of General Studies	0.0% (0)	0.0% (0)	0.0% (0)
Graduate School of Library and Information Science	0.0% (0)	0.0% (0)	0.0% (0)
Institute of Aviation	0.0% (0)	0.0% (0)	0.0% (0)

School of Labor and Employment Relations	0.0% (0)	0.0% (0)	0.0% (0)
School of Social Work	0.0% (0)	0.0% (0)	0.0% (0)
answered question	38	19	**57**
		skipped question	**0**

4. What is your major?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Count**
	38 replies	19 replies	57
answered question	38	19	**57**
		skipped question	**0**

5. What is your minor?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Count**
	19 replies	9 replies	28
answered question	19	9	**28**
		skipped question	**29**

6. What is your cumulative GPA?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
3.50-4.00	**52.6% (20)**	26.3% (5)	**43.9% (25)**
3.00-3.49	23.7% (9)	**47.4% (9)**	31.6% (18)
2.50-2.99	21.1% (8)	15.8% (3)	19.3% (11)
2.00-2.49	2.6% (1)	10.5% (2)	5.3% (3)
Less than 2.00	0.0% (0)	0.0% (0)	0.0% (0)
answered question	38	19	**57**
		skipped question	**0**

7. What is your expected graduation date?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
I've already graduated	2.6% (1)	5.3% (1)	3.5% (2)
2010	31.6% (12)	26.3% (5)	29.8% (17)
2011	15.8% (6)	**31.6% (6)**	21.1% (12)
2012	15.8% (6)	10.5% (2)	14.0% (8)
2013	**34.2% (13)**	26.3% (5)	**31.6% (18)**
2014 or later	0.0% (0)	0.0% (0)	0.0% (0)
answered question	38	19	**57**
		skipped question	**0**

8. Have you been involved in any biotechnology-related student organizations or coursework?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Yes.	31.6% (12)	47.4% (9)	36.8% (21)
No.	**68.4% (26)**	**52.6% (10)**	**63.2% (36)**
If Yes, Please Explain.	9 replies	9 replies	18
answered question	38	19	**57**
		skipped question	**0**

9. Which area of specialization within the program might be of interest to you?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Plant Biotechnology	28.9% (11)	21.1% (4)	26.3% (15)
Animal Biotechnology	**60.5% (23)**	31.6% (6)	**50.9% (29)**
Both	10.5% (4)	**42.1% (8)**	21.1% (12)
Neither	0.0% (0)	5.3% (1)	1.8% (1)
answered question	38	19	**57**
		skipped question	**0**

10. The following is a list of business and business-related topics that could be included in the Illinois PSM's business curriculum. Please rate your level of interest in each topic.

		Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
		Somewhat interested	Very interested	Response Totals
Accounting	Not Interested at all	**35.1% (13)**	**36.8% (7)**	
	Somewhat uninterested	13.5% (5)	26.3% (5)	
	Neutral	16.2% (6)	15.8% (3)	
	Somewhat interested	32.4% (12)	10.5% (2)	
	Very interested	2.7% (1)	10.5% (2)	
		37	19	56
Business Communication	Not Interested at all	19.4% (7)	15.8% (3)	
	Somewhat uninterested	11.1% (4)	21.1% (4)	
	Neutral	22.2% (8)	5.3% (1)	
	Somewhat interested	**36.1% (13)**	**36.8% (7)**	
	Very interested	11.1% (4)	21.1% (4)	
		36	19	55
Entrepreneurship	Not Interested at all	10.8% (4)	15.8% (3)	
	Somewhat uninterested	5.4% (2)	10.5% (2)	
	Neutral	32.4% (12)	5.3% (1)	

	Somewhat interested	**35.1% (13)**	21.1% (4)	
	Very interested	16.2% (6)	**47.4% (9)**	
		37	19	56
Ethics	**Not Interested at all**	8.3% (3)	10.5% (2)	
	Somewhat uninterested	13.9% (5)	5.3% (1)	
	Neutral	25.0% (9)	15.8% (3)	
	Somewhat interested	**33.3% (12)**	31.6% (6)	
	Very interested	19.4% (7)	**36.8% (7)**	
		36	19	55
Finance	**Not Interested at all**	21.6% (8)	10.5% (2)	
	Somewhat uninterested	21.6% (8)	31.6% (6)	
	Neutral	18.9% (7)	5.3% (1)	
	Somewhat interested	**35.1% (13)**	**36.8% (7)**	
	Very interested	2.7% (1)	15.8% (3)	
		37	19	56
Human Resource Management	**Not Interested at all**	16.2% (6)	10.5% (2)	
	Somewhat uninterested	18.9% (7)	10.5% (2)	
	Neutral	24.3% (9)	15.8% (3)	

	Somewhat interested	**32.4% (12)**	**47.4% (9)**	
	Very interested	8.1% (3)	15.8% (3)	
		37	19	56
Marketing	**Not Interested at all**	10.8% (4)	15.8% (3)	
	Somewhat uninterested	13.5% (5)	5.3% (1)	
	Neutral	27.0% (10)	21.1% (4)	
	Somewhat interested	**35.1% (13)**	**36.8% (7)**	
	Very interested	13.5% (5)	21.1% (4)	
		37	19	56
Negotiation	**Not Interested at all**	5.4% (2)	10.5% (2)	
	Somewhat uninterested	21.6% (8)	5.3% (1)	
	Neutral	24.3% (9)	26.3% (5)	
	Somewhat interested	**35.1% (13)**	26.3% (5)	
	Very interested	13.5% (5)	**31.6% (6)**	
		37	19	56
People and Technology at Work	**Not Interested at all**	8.1% (3)	5.3% (1)	
	Somewhat uninterested	10.8% (4)	15.8% (3)	
	Neutral	21.6% (8)	10.5% (2)	
	Somewhat interested	**40.5% (15)**	26.3% (5)	

	Very interested	18.9% (7)	**42.1% (8)**	
		37	19	56
Policy Studies	**Not Interested at all**	13.5% (5)	10.5% (2)	
	Somewhat uninterested	16.2% (6)	21.1% (4)	
	Neutral	**43.2% (16)**	**31.6% (6)**	
	Somewhat interested	21.6% (8)	**31.6% (6)**	
	Very interested	5.4% (2)	5.3% (1)	
		37	19	56
Project Management	**Not Interested at all**	5.4% (2)	10.5% (2)	
	Somewhat uninterested	10.8% (4)	0.0% (0)	
	Neutral	8.1% (3)	15.8% (3)	
	Somewhat interested	**73.0% (27)**	26.3% (5)	
	Very interested	2.7% (1)	**47.4% (9)**	
		37	19	56
Strategy	**Not Interested at all**	5.4% (2)	15.8% (3)	
	Somewhat uninterested	5.4% (2)	0.0% (0)	
	Neutral	18.9% (7)	10.5% (2)	
	Somewhat interested	**54.1% (20)**	**42.1% (8)**	

	Very interested	16.2% (6)	31.6% (6)	
		37	19	56
Technology and Innovation Management	**Not Interested at all**	8.3% (3)	0.0% (0)	
	Somewhat uninterested	5.6% (2)	5.3% (1)	
	Neutral	25.0% (9)	15.8% (3)	
	Somewhat interested	**44.4% (16)**	15.8% (3)	
	Very interested	16.7% (6)	**63.2% (12)**	
		36	19	55
Transitioning from Scientist to Manager	**Not Interested at all**	11.1% (4)	5.6% (1)	
	Somewhat uninterested	13.9% (5)	5.6% (1)	
	Neutral	16.7% (6)	27.8% (5)	
	Somewhat interested	**36.1% (13)**	22.2% (4)	
	Very interested	22.2% (8)	**38.9% (7)**	
		36	18	54
Other – please specify	**Not Interested at all**	10.0% (1)	**100.0% (1)**	
	Somewhat uninterested	0.0% (0)	0.0% (0)	
	Neutral	**90.0% (9)**	0.0% (0)	
	Somewhat interested	0.0% (0)	0.0% (0)	
	Very interested	0.0% (0)	0.0% (0)	

	10	1	11
Other (please specify)	0 replies	0 replies	0
answered question	37	19	**56**
		skipped question	**1**

11. How important would you find the following aspects of a PSM program in BIOTECHNOLOGY?

		Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
		Somewhat interested	**Very interested**	**Response Totals**
Ability to take classes other than those required	**Not Important at All**	2.7% (1)	21.1% (4)	
	Somewhat Important	**56.8% (21)**	31.6% (6)	
	Very Important	40.5% (15)	**47.4% (9)**	
		37	19	56
Extracurricular opportunities	**Not Important at All**	2.8% (1)	10.5% (2)	
	Somewhat Important	38.9% (14)	31.6% (6)	
	Very Important	**58.3% (21)**	**57.9% (11)**	
		36	19	55
Faculty accessibility and mentoring	**Not Important at All**	2.7% (1)	0.0% (0)	
	Somewhat Important	21.6% (8)	15.8% (3)	
	Very Important	**75.7% (28)**	**84.2% (16)**	

		37	19	56
Flexible, individualized curriculum	**Not Important at All**	2.7% (1)	0.0% (0)	
	Somewhat Important	37.8% (14)	47.4% (9)	
	Very Important	**59.5% (22)**	**52.6% (10)**	
		37	19	56
Hands-on experience with lab instrumentation	**Not Important at All**	2.7% (1)	0.0% (0)	
	Somewhat Important	13.5% (5)	26.3% (5)	
	Very Important	**83.8% (31)**	**73.7% (14)**	
		37	19	56
Interaction with other PSM students	**Not Important at All**	5.4% (2)	5.3% (1)	
	Somewhat Important	29.7% (11)	10.5% (2)	
	Very Important	**64.9% (24)**	**84.2% (16)**	
		37	19	56
Internship/real-world experience	**Not Important at All**	2.7% (1)	0.0% (0)	
	Somewhat Important	16.2% (6)	10.5% (2)	
	Very Important	**81.1% (30)**	**89.5% (17)**	
		37	19	56
Lab research	**Not**	2.7%	0.0%	

	Important at All	(1)	(0)	
	Somewhat Important	29.7% (11)	26.3% (5)	
	Very Important	**67.6% (25)**	**73.7% (14)**	
		37	19	56
National affiliation with other PSM students + alumni	**Not Important at All**	13.5% (5)	10.5% (2)	
	Somewhat Important	**51.4% (19)**	36.8% (7)	
	Very Important	35.1% (13)	**52.6% (10)**	
		37	19	56
Networking with companies	**Not Important at All**	2.7% (1)	0.0% (0)	
	Somewhat Important	24.3% (9)	10.5% (2)	
	Very Important	**73.0% (27)**	**89.5% (17)**	
		37	19	56
Practical, applied experience	**Not Important at All**	2.7% (1)	0.0% (0)	
	Somewhat Important	10.8% (4)	0.0% (0)	
	Very Important	**86.5% (32)**	**100.0% (19)**	
		37	19	56
Small class size	**Not Important at All**	5.4% (2)	5.3% (1)	
	Somewhat Important	**48.6% (18)**	**52.6% (10)**	

Very Important	45.9% (17)	42.1% (8)	
	37	19	56
answered question	37	19	**56**
		skipped question	**1**

12. Are you interested in a career related to plant or animal BIOTECHNOLOGY?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Very interested and I'm familiar with the potential career possibilities.	5.3% (2)	42.1% (8)	17.5% (10)
Interested but I would like to learn more about the area and possibilities	**52.6% (20)**	**47.4% (9)**	**50.9% (29)**
Somewhat interested but no more so than in other post-graduate options	36.8% (14)	10.5% (2)	28.1% (16)
No interest	5.3% (2)	0.0% (0)	3.5% (2)
Please share any additional comments	0 replies	2 replies	2
answered question	38	19	**57**
		skipped question	**0**

13. Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Not at all interested	0.0% (0)	0.0% (0)	0.0% (0)
Not very interested	0.0% (0)	0.0% (0)	0.0% (0)
Neutral	0.0% (0)	0.0% (0)	0.0% (0)
Somewhat interested	**100.0% (38)**	0.0% (0)	**66.7% (38)**
Very interested	0.0% (0)	**100.0% (19)**	33.3% (19)
answered question	38	19	**57**
		skipped question	**0**

14. Tuition and fees for a 16-month Illinois PSM program in BIOTECHNOLOGY will be about $31,000 (in-state tuition rate). This is about the same amount an Illinois undergraduate in life sciences would pay for the same number of semesters. What's your opinion of the costs?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
Too cheap	0.0% (0)	0.0% (0)	0.0% (0)
A little cheap	0.0% (0)	0.0% (0)	0.0% (0)
A good value/reasonably priced	42.1% (16)	36.8% (7)	40.4% (23)
A little expensive	**44.7% (17)**	**52.6% (10)**	**47.4% (27)**
Too expensive	13.2% (5)	10.5% (2)	12.3% (7)
answered question	38	19	**57**
		skipped question	**0**

15. As a professional program, Illinois PSM students pay all tuition and fees. Assistantships or fellowships are rarely available but students may qualify for loans. What impact would this have on your decision to enroll in the BIOTECHNOLOGY PSM program?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
No impact at all	2.6% (1)	10.5% (2)	5.3% (3)
Little impact	10.5% (4)	15.8% (3)	12.3% (7)
Some impact	**44.7% (17)**	26.3% (5)	**38.6% (22)**
Considerable impact	23.7% (9)	**31.6% (6)**	26.3% (15)
Great impact	18.4% (7)	15.8% (3)	17.5% (10)
answered question	38	19	**57**
		skipped question	**0**

16. There is a wide range of BIOTECHNOLOGY-related careers, so it's hard to pin down a specific salary for someone with a BIOTECHNOLOGY master's degree. Given the sample salaries at the beginning of this survey, what impact does salary potential have on your decision to enroll in the BIOTECHNOLOGY PSM program?

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Totals**
No impact at all	2.7% (1)	5.3% (1)	3.6% (2)
Little impact	10.8% (4)	10.5% (2)	10.7% (6)
Some impact	**45.9% (17)**	**36.8% (7)**	**42.9% (24)**
Considerable impact	35.1% (13)	26.3% (5)	32.1% (18)
Great impact	5.4% (2)	21.1% (4)	10.7% (6)
answered question	37	19	**56**
		skipped question	**1**

17. If you have any further comments about the Illinois PSM in BIOTECHNOLOGY, please share with us here:

	Given the description of the Illinois PSM, what is your interest in a 3-semester/1-summer program in BIOTECHNOLOGY?		
	Somewhat interested	**Very interested**	**Response Count**
	0 replies	4 replies	4
answered question	0	4	**4**
		skipped question	**53**

Program Profile and Projections

Proposed-Plant Biotech

	Cohort 1		Cohort 2		Cohort 3		Cohort 4		Cohort 5		Academic Year Totals					
	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Total
Enrollment Projections:																
New	5		8		10		10		10		5	8	10	10	10	43
Continuing		5	5	8	8	10	10	10	10	10						
Total	5	5	13	8	18	10	20	10	20	10						
Weighted Avg Tuition Rates	$6,000	$6,000	$6,000		$6,000	$6,000	$6,000		$6,000	$6,000						
			$6,000	$6,000	$6,000		$6,000	$6,000	$6,000							
Credit Hour Costs:																
Business	$625	$625	$625		$625	$625	$625		$625	$625						
			$625	$625	$625		$625	$625	$625							
LER	$500	$500	$500		$500	$500	$500		$500	$500						
			$500	$500	$500		$500	$500	$500							
Tuition Revenue:																
Gross	$30,000	$30,000	$78,000	$48,000	$108,000	$60,000	$120,000	$60,000	$120,000	$60,000	$60,000	$126,000	$168,000	$180,000	$180,000	$714,000
Holdback	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net	$30,000	$30,000	$78,000	$48,000	$108,000	$60,000	$120,000	$60,000	$120,000	$60,000	$60,000	$126,000	$168,000	$180,000	$180,000	$714,000
Tuition Distributions:																
Business	$6,250	$6,250	$16,250	$10,000	$22,500	$12,500	$25,000	$12,500	$25,000	$12,500	$12,500	$26,250	$35,000	$37,500	$37,500	$148,750
LER	5,000	5,000	8,000	8,000	10,000	10,000	10,000	10,000	10,000	10,000	$10,000	$16,000	$20,000	$20,000	$20,000	$86,000
Program/Discipline	18,750	18,750	53,750	30,000	75,500	37,500	85,000	37,500	85,000	37,500	$37,500	$83,750	$113,000	$122,500	$122,500	$479,250
	$30,000	$30,000	$78,000	$48,000	$108,000	$60,000	$120,000	$60,000	$120,000	$60,000	$60,000	$126,000	$168,000	$180,000	$180,000	$714,000

Initial tuition: Resident	**$6,000**
Non-resident	**$9,000**
Assumed resident student percentage:	**100%**
Est. annual tuition increase:	**0.00%**
Initial credit hour cost Business:	**$625**
LER:	**$500**
Holdback rate:	**0.00%**

"Plus" curriculum hours by cohort:

	Business	LER	Total
Term I - Fall	2	2	4
Term II - Spring	2	2	4
Term III - Fall	2	0	2
	6	4	10

Assumptions:
1. Three semester cohorts with fall admission
2. Tuition and fee increases apply to new students only; fixed for continuing students
3. Assumed resident/non-resident percentages constant over time
4. Holdback rate constant over time