

## Institutional Advisory Committee

# Report of Meeting On October 3, 2007

January 14, 2008

The Center for Promoting STEM (CP-STEM) held its second meeting of the Institutional Advisory Committee (IAC) on October 3, 2007. Next meeting will be held on Wednesday, February 13, 2008. Please see Appendix One for the meeting agenda and Appendix Two for the list of current IAC members.

Dr. Tom Hamel, Chair of IAC and Vice President of Academic Affairs, made some welcoming remarks and three new events including a visit from the Higher Learning Commission to complete Oakton's reaccreditation, the hiring of a new internship coordinator, and the new National Science Foundation award of a \$500,000 S-STEM grant. Attendees introduced themselves. Gloria Liu, IAC Co-chair, presented the objectives and overview of the project, highlights of the 2006-2007 Annual Report to the NSF, and some updates to the current status of the grant. In a subsequent breakout session, the attendees focused on one of two topics including marketing/recruiting and pedagogy.

Notes from the two breakout sessions can be found in Appendix Three. Based on the discussions and recommendations, the project directors have taken the following actions during fall 2007 semester with some still in progress:

1. CP-STEM website:
  - a. We are starting to ask students' permission to include their testimonials in future CP-STEM promotions.
  - b. We are in the process of working to include links to four-year schools and STEM sites.
  - c. We are designing a page for STEM alumni.
  - d. The anticipated rollout date for the redesigned CP-STEM website is February 13, 2008.
2. Outreach
  - a. Donna Hoffman and George Tootelian have taken on the role of High School Liaisons for CP-STEM. As a result, significant connections have been made with Evanston Township High School and Maine Township High Schools. Both Donna and George will continue to act in this role in spring 2008 semester.
  - b. An OCC STEM poster might not be a useful approach to reach our target audience. High school liaisons appear to build relationships between CP-STEM and local area high schools in effective ways that allow CP-STEM to address their needs.
  - c. Oakton awarded CP-STEM with a \$4,800 mini-grant to increase the number of Evanston Township High Schools (ETHS) graduates who will study science, technology, engineering, and mathematics (STEM) programs at Oakton, and to foster new and renewed relationships with the STEM faculty. Two ETHS faculty

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**Director:**  
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focus group sessions and one ETHS student focus group session will be held in spring 2008.

3. Oakton STEM alumni:
  - a. We brought alumni back to Oakton on November 29, 2007 at our All Students Gathering to talk about their educational, transfer, and job experiences. We will continue to invite alumni to return to Oakton to share their experiences with current Oakton students.
  - b. We began building a network of Oakton STEM alumni through LinkedIn, an Internet networking utility designed for building professional careers.
4. Pedagogy
  - a. CP-STEM would like to promote successful pedagogies in STEM at Oakton. In 2007-2008, we focused on Problem-Based Learning (PBL).
  - b. Six PBL seminars were held during the fall 2007 semester during which Ruth Williams, Anatomy & Physiology faculty, and Majid Ghadiri, Electronics and Computer Technologies faculty developed an interdisciplinary PBL scenario. Both presented the scenario during Oakton's faculty orientation on January 7, 2008. Both will also share the scenario and seek feedback from other faculty members throughout spring 2008 semester.
  - c. The First Conference for Promoting STEM was held on December 14, 2007. Over 45 faculty members from Oakton, local area high schools, and nearby community colleges attended the four-hour conference on PBL. Nine participants submitted preliminary PBL proposals. CP-STEM is offering \$400 stipend for development, implementation, assessment and evaluation of a PBL scenario.

## Appendix 1

### Institutional Advisory Committee

October 3, 2007, 3:00 – 4:30 pm

### Agenda

I. Welcome Remarks, Tom Hamel, Vice President of Academic Affairs

II. Introducing participants, Gloria Liu

III. Highlights from 2006-2007 Annual Report

IV. Current status

V. Group Discussion Topics 3:20 – 3:50

Please identify a reporter.

A. Marketing/Recruitment

1. Evaluation of current materials (web, course schedule)
2. High school outreach
  - a) Problem Based Learning
  - b) Attitudinal Survey Results
  - c) Take a teacher to lunch
3. Co-market CP-STEM with S-STEM
4. Sustainability

B. Pedagogy – creating a STEM atmosphere

1. PBL
2. SIT-SIMs
3. STEM Club

VI. Reporting Back and Creating an Action Plan 3:50 – 4:20

VII. Conclusion 4:20 – 4:30

VIII. Next Meeting: Wednesday, February 13, 2008, 3 – 4:30pm

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## Appendix 2

### Members

Contact Last Name	Contact First Name	Title	Organization
Camel	Christine	Science Instructor	Niles North High School
Canfield	Jinhee	Instructor of Mathematics	OCC
Carzoli	John	Chair of Physical Sciences	OCC
Casey	Clifford	Manager of Advising and Counseling	OCC
Churchill	Constance	Chemistry	OCC
Cohen	Dale	Admission Specialist	OCC
Douglas	Maureen	Professor of English	OCC
Duggan	Patricia	Chair, Applied Arts and Technology	Maine South High School
Escudero	Princess	Assistant of Student Activities	OCC
Foley	Tom	Physics Teacher	Maine East High School
Ghadiri	Majid	Chair of Electronics	OCC
Gibbons	Virginia	Professor of English	OCC
Graham	Dennis	Dean of Allied Health and Sciences	OCC
Hamel	Thomas	VP of Academic Affairs	OCC
Hoffman	Donna	Former Instructor of Mathematics	Department of Mathematics Glenbrook South High School (Retired)
Kotowski	Joe	Chair of Engineering	OCC
Liu	Gloria	Coordinator of CP-STEM	OCC
Marshburn	Roxann	Director of Grants and Alternative Funding	OCC
May	Alison	TRIO Coordinator	OCC
McKenzie	Shannon	Internship Coordinator	OCC
Meyer	Jill	Post-Secondary Counselor	Evanston Township High School
Ortega	Victoria	Admission Specialist	OCC
Reznick	Michele	Coordinator of Computer Information Systems	OCC
Ruddin	David	Research Analyst	OCC
Schuester	Katherine	Assistant Professor of Education, Coordinator of Education and Global Studies Programs	OCC
Shapero	Carol	Professor of Mathematics	OCC
Smith	Michael	Chair of Mathematics	Maine West High School
Sompolski	Bob	Dean of Mathematics and Technologies	OCC
Stone	Lisa	Director of Mathematics	Niles West High School
Tootelian	George	Adjunct Instructor of Physics and Engineering	OCC
Trobec	Terry	Professor of Biology	OCC
Wang	Tingxiu	Professor of Mathematics	OCC
Warmann	Cheryl	Director of Student Financial Assistance	OCC
Wisniewski	Lois	Director of Science	Niles North High School
Woodbury	Lynn	Chair of English	OCC
Younger	Donna	Director of Learning Center	OCC

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## Appendix 3

# Breakout Discussion Notes

## A. Marketing

Christine Camel, Science, Niles North High School  
Cliff Casey, Advising and Counseling, OCC  
Dale Cohen, Admissions, OCC  
Patricia Duggan, Chair, Applied Technology, Maine South High School  
Tom Foley, Physics, Maine East High School  
Donna Hoffman, Mathematics, Glenbrook South High School  
Alison May, TRiO Coordinator, OCC  
Roxann Marshburn, Grants and Alternative Funding, OCC  
Victoria Ortega, Minority Recruiter, Admissions, OCC  
Jill Meyer, Counselor, OCC  
George Tootelian, Engineering and Physics, OCC  
David Ruddin, Office of Research, OCC  
Dr. Tingxiu Wang, Mathematics, OCC  
Cheryl Warmann, Student Financial Assistance, OCC

Facilitator: Dr. Robert Sompolski, Dean of Mathematics and Technology, OCC

### Notes

(Many thanks to Roxnn Marshburn for providing detailed notes.)

- I Marketing and Recruiting Group Discussion
  - A Evaluation of current materials (web, course, schedule)
  - B High School outreach
    - a Problem based learning
    - b Attitudinal survey results
    - c Take a teacher to lunch
  - C Co-market CP-STEM with S-STEM
  - D Sustainability

### A. Website

Oakton's CP-STEM Website could include:

Links to other websites

4-year schools

UIC

Links to other STEM sites

Student testimonials

Where are our STEM students now?

National Clearinghouse for tracking

Info from STEM alums

(TRIO program has a student newspaper that comes out about once a month, put together entirely with student submissions, a lot about what the alums are doing, what schools they are attending.

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Track through Facebook accounts, too  
Information about APEX and availability of MONEY!  
Course schedules

Should be described on the Website in terms students understand.  
(Consider offering courses at night – we have some returning adult students. Not all are 9-5 students.)

#### B. HS Outreach

- i.) We offer peer tutoring program in which high school students who have completed at least Calculus AB receive tutor training and are given an opportunity to tutor Oakton math students.
- ii.) STEM Attitudinal survey illustrates the difference between students and STEM students. If don't participate in STEM activities, interest in STEM drops.
- iii.) PBL - SIT-SIMS reach out to h.s.  
(Patricia Duggan/Tom Foley) – Need to help faculty get more involved in Problem Based Learning activities. Have a conference for the teachers. Maybe tie into technology and math? Have faculty go to the high schools to try to get increased interest in PBL.
- iv.) Have a Math/Science Open House for high school students, along the lines of the I-Tech Open House with Sit-Sims – but focus on Math & Science – sometimes don't see themselves as “technology”.
- v.) Offer Dual Credit courses in math and science – not just Col. 101, etc.
- vi.) Need to talk to the h.s. counselors more –  
No, not the counselors – go through the classrooms. Talk to the teachers – no the department chairs – and meet with the parents! They need to know money is available.
- vii.) And let them know, this is what can Oakton do for you  
Every dual credit teacher (should have STEM brochures)  
Seniors in math – go to their rooms.  
STEM – come to physics class  
Not thru counselors  
H.S. department meetings – tell them about STEM and \$\$  
Go to the dual credit classes – they're already getting Oakton credit.
- viii.) Also realize that kids don't speak the Lingo - they don't know what “STEM” is.  
(ditto dual credit, credit hours, etc.)
- ix.) Should be a recruiting brochure about CP-STEM/STEM/APEX that is designed just for high school students (not how to be an SS tutor) – but explain STEM
- x.) Posters- where are the POSTERS? All over – in classrooms, TRIO, honors programs, high schools, everywhere.

- xi.) All the high schools have college recruiters come – Oakton should have times set up just for STEM students. Kids can get out of class to go talk to the recruiters.
- xii.) Oakton should participate in all the College fairs at the high schools, All-State, etc.
- xiii.) Take it (CP-STEM) on the road -
- xiv.) Direct mail to dual credit students – brochure on STEM/HS

C. High school teachers

- i.) Take a teacher to lunch – (who, where?)  
Invite h.s. teacher to have lunch, either at Oakton or off-campus (Duggan/Foley) – Would be more effective to take several department chairs to lunch – or bring to Skokie to see labs.
- ii.) Should present at State (h.s.) teacher conferences (IL. Council of Teachers of Mathematics): Do a proposal for a workshop on PBL
- iii.) Sat. workshop for teachers  
Provide CPU Credit – a.m. show PBL, in p.m. they design PBL

D. Classes in Skokie – offer evening classes

E. ETHS, Maine – Both getting involved in Project Lead the Way – but not referring to anything as PLTW – only talk about “pre-engineering”

F. Let students know there are Clubs aimed specifically at math & science students

G. How to reach students

- i.) Texting and Im’s
- ii.) No email, No phones anymore

**B. Pedagogy**

Maureen Douglas, English, OCC  
Majid Ghadiri, Chair, Electronics and Electronics Servicing, OCC  
Virginia Gibbons, English, OCC  
Dennis Graham, Dean of Science and Allied Health, OCC  
Cecelia Hutchcraft, Chair, Biology, OCC  
Michele Reznick, Computer Information Systems, OCC  
Terry Trobec, Biology, OCC

Facilitator: Gloria Liu

*Notes*

More questions were raised than solutions proposed.

- What is problem based learning (PBL)?
- The word “problem” in PBL leads one to feel a sense of anxiety.
- Is some Oakton faculty already doing a hybrid of PBL?
- If so, how can we share the experience and expertise?
- How do we encourage development of PBL or a variation on activity based learning?
- What structure can support collaboration among faculty members to design activities and projects for their students?
- Faculty can teach tandem courses, teach a course with many instructors, or design a module, among many other options.