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Science Department Program of Studies Task Force:

Department reps: Julie, Lisa, Rick B., David B., Maria, David L., Tracy, George, Rick T.

District reps: Kevin Pobst, Moses Cheng, Ellen Jacobson

Tentative Meetings:

Thursday February 23rd @ 3:15-3:45 in room 106

Time line issues
Meetings overview
Buzz system set up
Starting questions
Department goals and vision questions

Thursday March 2nd @ 3:15-3:45 in room 106

Compilation of input from buzz system on starting questions and department goals/vision

Thursday March 9th @ 3:15-4:15 in room 106

TREGOE Situation Analysis
Compilation of TREGOE Situation Analysis
Chose focus points and tasks

Monday March 13th Department Meeting

Report out to department on progress

Monday March 20th

Thursday April 6th

Thursday April 13th

Thursday April 17th Department Meeting

Report out to department on progress

Thursday April 27th

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Program of Studies Task Force Update:

Note: For format purposes, you should view this page as a full screen.

This is a quick summary of our brief meeting Thursday, March 23rd. Although we were all a bit tired, we came up with some interesting information and ideas. Please continue to share these ideas with our buzz partners.

Information was shared on what schools similar to us offered in their Program of Studies. These schools had been identified through the Interactive Illinois Report Card and have similar demographics to HSHS (0-20% Black, 0-20% Hispanic, 0-20% Asian, 5-10% low income). A quick summary of their PSAE science scores and Programs of Study are as follows:

School	Science PSAE 2001-5	Notes on PSAE	Info from Program of Studies
Naperville N	**81, 81, 81, 80, 82**	**steady, high, sci even w/ or higher than reading**	**Two levels of science for freshmen: Dynamic ES (contains physics) or Chem H; Four levels offered at the sophomore level (two of Chem and two of Biology)**
Buffalo Grove	67, 71, 73, 74, 74	improving	Three levels: Fresh bio followed by PS at the two lower levels and chem.
O'Fallon	68, 73, 65, 75, 74	improving	Two levels at the freshman level: Integrated science followed by a myriad of core and electives or Honors Bio followed by Honors Chem
Glenbard W	71, 76, 69, 67, 71	steady	Two levels lower levels of PS (followed by two levels of biology and two upper levels of Biology for freshmen followed by two upper levels of chem..
Waubonsie	**70, 67, 66, 67, 66**	**steady, sci even with or higher than reading**	**Two levels of bio for freshmen followed by chem. or electives sophomore year**
Conant	59, 66, 66, 71, 72	marked improvement	Three levels, all bio freshmen year, levels diverge sophomore year to PS, ES or Chem Tons of electives
HSHS	**65, 69, 70, 65, 68**	**steady**	**ES for lower level students freshman year followed with two levels of biology OR two levels of bio freshman year followed by two levels of chem**

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Dist 99 S	63, 66, 65, 66, 67	slight improvement	
Lake Park	60, 67, 64, 64, 63	steady	Vague—all bio followed by chem
Warren	62, 64, 58, 63, 63	steady	
Glenbard N	60, 57, 59, 58, 59	steady	Four levels of freshman science: Science survey Followed by PS and lower level Bio, PS followed By Bio or Chem, integrated science I followed by Integrated science II, Bio H followed by Chem H
Oswego	52, 54, 53, 56, 61	improving, sci even with or higher than reading	Three levels of freshman science (PS-g, PS and Bio H) followed by similar leveled courses
Huntley	**50, 54, 52, 51, 56**	**mixed**	
Plainfield	49, 48, 47	steady, low	

Ideas generated:

Other items discussed were adjusting the placement criteria for ES—currently, students scoring 50th percentile locally or lower on the EXPLORE are placed in ES. Perhaps we could focus on the needs of students more effectively if we changed the criteria to 40th or 30th percentile or lower. Moving the criteria to 40th percentile or lower would move 70 students (out of 212) from ES to our Biology R course their freshmen year.

We could then offer a Biology 9 for 9th grade students and a Biology 10 for 10th grade students coming from ES (while maintaining a Biology G course for high needs students). This would allow for the development of stronger articulation between the ES and Biology teams. It would also reinforce skills learned in ES for our more challenged students. The curriculum between Biology 10 and 9 would be the same, but with a different emphasis on skills.

Questions still out there for us to consider:

1) What role do our electives play? We've removed Botany and Geology to help maintain a focus on core courses and keep rigor. Should A&P be an honors course? Should Dual Credit courses be considered?
2) What core courses should we offer, and to whom, and based on what criteria? What should the curricula focus on/intergrate? How can we align our core courses to help students develop and maintain skills?
3) How can we better articulate with our feeder schools with their diverse curricula and needs?

Our next meeting will be April 6th. Thanks, everyone!!! ☺

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Summer 2007 Program of Studies Task Force Objectives

I. Goals/Timelines----------DONE 7/25/07
Textbooks, Course goals, EUs, EQs, objectives, math integration

- **a.** Goals/Timelines for GeoPhysics/Physics Honors in 2007-2008
- **b.** Goals/Timelines for Chemistry Curriculum in 2007-2008 (and 2009?)
- **c.** Goals/Timelines for Biology Curriculum in 2007-2008 (and 2009-2010?)

II. Assessment----------DONE 7/30/07

- **a.** Cohort growth (EXPLORE—PLAN—ACT)
- **b.** Enrollment trends
- **c.** In-house pre/post assessments
  - **i.** Attitude Towards Science
  - **ii.** Science Process Skills
  - **iii.** Understanding of the Nature of Science
  - **iv.** Enduring Understandings
  - **v.** Demographics

III. Key Science Skill Alignment----------TO DO ON LS & PULLOUT DAYS

- **a.** ACT categories
- **b.** Graphing
- **c.** Experimentation
- **d.** Reading
- **e.** Writing

IV. Electives----------DISCUSSED 7/30/07

- **a.** What purpose do/should electives have?
  - **i.** More classes for regular level students—non-scienc-y kids + scienc-y—non-AP focus, enjoyment and exposure, general interest courses—special interest course
  - **ii.** Scienc-y kids—for career and college—exposure to options
  - **iii.** Increase enthusiasm for science
  - **iv.** Increase choices—gives freedom and responsibility
  - **v.** One-size doesn't fit all
  - **vi.** Shouldn't distract from core courses
  - **vii.** What about AP courses? Weighting… will electives decrease AP enrollment?
  - **viii.** Enrichment during the summer—offer electives?
  - **ix.** Fills out schedules with valid courses
- **b.** Honors versus Regular
  - **i.** ESH—honor only
  - **ii.** A&P—offer both for more accessibility for lower level students and more depth for advanced students
- **c.** Semester versus Year courses—maybe ESH
- **d.** Prerequisites
  - **i.** A&P—Can be concurrent with Biology
  - **ii.** Ecology—talk with Cory—if "issues" in 1st sem than can be concurrent w/ Bio

V. Academic Reading----------DECIDED 7/30/07

a. Sophomore course—CCAR only or CC + CCAR?
   ANSWER: BOTH CC AND CC AR
   2 for linked progression/alignment
   Provides a stepping stone for students
   Different populations and needs
   Allows for specialization of lessons and personnel
   Parent concerns moving from GP to CC AR

VI. Outreach to incoming freshmen----------DISCUSSED 7/30/07

a. Feeder schools (math and science departments), Parents, Students

   i. Have AP contact the principals of feeder schools

   ii. Contact guidance counselors asap to target borderline kids—ask advice on outreach

   iii. Contact DCs at the beginning of the year

   iv. Find out if incoming freshmen can take Alg I during the summer to get ahead

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Science Department Meeting October 11th @ 3:15-4:15 in Room 103

Focus: Continuing Program of Studies Investigation

- WP/DPGP due Wednesday, October 18th
  - WP: Bieterman, Bonner, Darrow, McGuire
  - DPGP: Battle, Camasta, Conyer, Lapetino, Mann, Sargent, Townsend
  - Focused portfolios, AR, inductions, Program of Studies leadership, classroom visits…
  - Prior to filling out electronic forms, stop by to discuss your idea

- Classroom visits—Test/Video? DC will take your class so you can visit other classrooms

- Safety
  - Experimental Review Binder + MSDS
  - Building security
  - Evacuations
  - Flinn safety training sheet—Topic: Acids

- Program of Studies Updates:
  - Re-focus on the why's…
  - School visits
  - Re-conceptualization
  - Glimpses of how alignment could work
  - Recent readings/discussions
  - Program of Studies Breakout discussions—See back of page.

- Reminders:
  - Breakfast Club (Physics): Oct 12th
  - WP/DPGP due Oct 18th
  - Late Start Day Dates: Oct 25th
  - HQT due to Admin Oct 31st
  - Department meetings: Nov 8th & Dec 6th

- Which questions require research, which require in-house discussion and which ones can be answered by school visits? Highlight and write ideas/Q's as you discuss this with your group.

  - How is GeoPhysics similar to IPS?
  - Major problems encountered by PCB schools?
  - Curriculum content? Objectives for freshman year. What textbooks do they use?
  - Can we see Naperville's stuff? Why does N's course get a bad rap?
  - What about transfer students who miss portions of our sequence?
  - Where do you find GeoP and P teachers (hiring issues)?
  - Would like to see quantitative data. Evidence for improvement.
  - Would PCB help our targeted kids?
  - Would like to talk with schools that have done this for a long time to learn specific impact on students.
  - Do we need a GeoP G? If so, how to place students? Team taught with Spec Ed teachers?
  - Is GeoP just ES with more depth?
  - Would like to streamline courses to make direction clear for students and parents.
  - Do colleges accept GeoP?
  - Do schools who offer PCB have more students taking 3rd/4th year of science? Effect on overall science enrollment at PCB schools? Effect on electives at PCB schools?
  - How many different options do PCB schools offer freshmen?
  - Do PCB schools offer AP Bio as a first year Bio course? If so, what are their results?
  - What were transition issues faced by schools who switched to PCB?
  - Would like to hear responses from a variety of teachers of different subjects/levels.
  - Do PCB schools align with middle schools?
  - What style of instruction is used at PCB schools? Is that what really matters?
  - Would like to vertically align skills and content.
  - Is PCB the most developmentally appropriate sequence?

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Program of Studies Pullout Day September 28th, 2007
Upper Library Technology Side (far south area)

Please bring material that would help this discussion (textbooks, labs, examples of student work, etc…)

7:30-8:50	9:00-10:10 + 10:30-11:45	12:15-1:20 + 1:40-3:00
ES + AR Student progress (MC AH) (RB ZK BM) (CS GK) (DL) Topics (* priority): 1) Individual student progress* 2) Individual student modifications* 3) Characteristics of the course and the students 4) Issues that weren't expected 5) Ideas for near future 6) Ideas for next year 7) Other	GP, PH + Chem for content, math + skills (RB CS) (DB ZK) (TM LM SC DF KB) Topics: 1) What **content** is covered/could be covered in Chemistry that could be previewed through topics learned in GeoPhysics and Physics 2) What **content** is covered/could be covered in GeoPhysics that could be LINKED or REINFORCED by learning that occurs in Chemistry? 3) Repeat 1 and 2 for **science skills** a. ACT skills—should 9th grade focus on one, then 10th on another? i. experimental design ii. graphing iii. comparing of two studies or theories b. Lab skills c. Lab writing/thinking i. Hypothesis ii. Tables/graphs iii. Conclusions 4) Repeat 1 and 2 for **math skills** a. Types of equations/variables b. Conversions c. Scientific notation	GP/PH work + Bio/Chem alignment (RB CS DB ZK BM) (KB DL SC TM) Topics for GP/P: 1) Review how this year is going for integrating physics/math into ES 2) Look ahead this year's upcoming topics and discuss how these will look for GeoPhysics 3) Discuss the classroom management and classroom/teacher approaches that will have to change Physics Honors (also talk with Gaubatz and Lapetino) 4) Discuss what equipment you will need—be specific—I have to have this by mid-January for capital requests Topics for Bio.Chem alignment: 1) Explore similar questions as seen in the previous column (1-4)

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Science Department Program of Studies Pullout Day September 28th, 2007

7:30-8:50

Biology G/AR and Earth Science AR/ES (cotaught)

Biology G (Lapetino/Rosko)
Biology AR (Conyer/Hallihan)
Earth Science (Bieterman/Burge/Malas)
Earth Science AR (Sargent/Khodos/Knott)

Outcomes:

- Discussed individual student progress
- G-level courses
  - Strong consensus: We need to offer co-taught G classes in addition to AR for freshmen and sophomores
  - Matches data analysis by Kevin and core DCs on the ability to have high rigor in regular education with a large range of student abilities
- PCB sequence
  - Freshmen: GeoPhysics G, GeoPhysics AR, GeoPhysics, Physics Honors
  - Sophomore: Concepts in Chem G, Concepts in Chem AR, Chem, Chem H
  - Junior: Biology, Biology H/AP/DC or electives (prereqs two years of core science credit or concurrent with second core course)
- Recommendations for next year
  - After our January pullout day: Give each counselor a list of their students and our course recs
  - Students who can't read at all (in need of reading recovery) need G, not AR
  - What does the English department offer for students who can't read at all? Do they need an IEP for this (if something exists)?

9:00-10:10 + 10:30-11:45

GeoPhysics/Physics Honors/Chemistry Alignment

Chemistry (Mann, Camasta, Battle)
GeoPhysics/Physics (Sargent, Bieterman, Knott)

Outcomes:
See alignment grid
Discussed math and graphing with Pat Wolf and Ish Zamora

12:15-1:20 + 1:40-3:00
Chemistry/Biology Alignment
Chemistry (Camasta, McDonald, Battle)
Biology (Battle, McDonald, Lapetino)

Outcomes:
See alignment grid

12:15-1:20 + 1:40-3:00
GeoPhysics/Physics Honors Curricula Development
(Bonner, Bieterman, Sargent, Knott, Malas)

Outcomes:

- Talked about Unit 1 progress and pitfalls

- Discussed how to approach teaching the following concepts:
    - gravitational physics
    - solar system physics
    - geologic physics

- Homework ideas (Why don't kids do it? Whose kids are doing it?)
    Possible intrinsic and extrinsic rewards for student motivation
    - field trips
    - "cool guest speakers"
    - SCIENCE OLYMPICS/CARNIVAL/Fair/Exhibit
    - Physics at the zoo
    - Physics trip to Great America

GeoPhysics/Physics supplies:

- Cars (5 cases of 25) $ 1. 95
- Remote control cars (all kinds and sizes)
- Rockets
- Potato Launchers
- 3 man slingshot
- USB missile launchers
- Stopwatches
- Meter Sticks
- Rulers
- Metric measuring tapes (50 m)
- Hovercrafts
- Earthquake simulator-seismometer
- Laser Beams
- The Physics Bike-S.C.A.R.C.E.
- Castle kits