

# Goals & Action Plans for Curriculum Alignment

*From the 2nd Annual Curriculum Alignment Conference  
October 28, 2011*

## Programming

- Establish a contact for every high school that teaches AP Computer Science or Business Computer Programming.
  - Host a regional district/high school information/interest session including possible teachers and advisors
  - Examine implementation of business computer programming from high school to high school
  - Examine possible merit for attainment of outcomes in business computer programming and AP Computer Science/IB
- Expand CC/SC collaboration of AS CP&A programs for program and course alignment.
- Continue with the current course alignment analysis .
- Identify Web programming opportunities for alignment.
- Align COP 1000+2220 to COP3223 & COP 2800+2805 to COP3330.
  - **Long Term**  
Examine the “Junior Achievement” model for introducing technology in K-12 with a virtual/mobile app feature opportunity

## Biology

- College faculty on the committee will read the NGSSS for HS Bio and relay them to their departments.
- Improving students’ general college success skills (knowing how to access and use information/follow instructions) both in HS and at colleges.
- Improve biology lab skills for entering freshman.
- Collaborate between colleges and K-12 to model rigorous, standards-based labs (look into having college students/faculty get approved as volunteers to come to schools).
  - Send out access to the state standards (pg. 36) to the EOC test specs. Send out to those involved today as well as those not present. Have college profs make common course outlines available for high school teachers.
  - Send Barbara ideas on how to make successful students. [hunnicub@seminolestate.edu](mailto:hunnicub@seminolestate.edu)
  - Send out learning styles website to assess how individual students learn.
  - Share best practices
  - Get state reps at next meeting in Feb. Work and invitation on letter to achieve this goal. Get this sent out by Nov.
  - Where is information coming from about students’ grades?

- Involve workforce partners in curriculum alignment

## Physics

- Develop the curriculum and pedagogy to encourage all students to take some level of physics before they graduate from high school.
  - State will establish a new law to require 4 sciences to graduate from high school.
  - Encourage high school guidance counselors to recommend physics to their students.
  - Create a list of recommended labs and demonstrations that have been proven to be engaging and effective in student learning.
  - Statement of clear objectives that incorporate demonstrated effective teaching and learning strategies.
  - Provide a list of samples of student friendly objectives.
  - Create a set of resources that emphasize the relevance of physics to the students' lives and that include current applications.
- Establish and maintain clear communication between K-12, colleges, universities and FDOE in terms of vertical and horizontal articulation. (*Everyone knows what is going on*)
  - Create a framework/timetable to allow for communication of the needs and requirements at the various levels and how those constraints impact instruction.
  - Colleges and university faculty are aware of and have read the K-12 state standards and course descriptions that correlate to their content areas.
  - Colleges and universities will make public the course descriptions and objectives.
  - Communicate the needs of an Item Specification book that includes resources, learning strategies, and suggested activities.
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  - Establish a permanent state level contact with the committee.
  - Utilize a central information system to communicate with various stakeholders.
  - Network with various organizations such as FASS – Florida Association of Science Supervisors, FLAAP, FAST.
  - Engage university level faculty so they understand the need to support K-12 curriculum issues and vice versa.
  - Provide an outlet for K-12 outreach for the purpose of supporting grant writing at the university level.
- Empower/enable teachers to have the knowledge and skills to be able to **develop** curriculum and **make decisions** on classroom based instruction. Are informed decisions makers in the development of the curriculum? (*Are Chefs, not Cooks*)
  - Recommend professional development that allows teachers to:
  - Understand the standards
  - Create and/or find curriculum aligned to the standards

- Create assessments that are aligned to the standards and the curriculum
  - Promote self-reflection of the curriculum and teaching strategies
  - Practice using innovative and novel approaches
  - Focus on student needs
  - Maximizes students' learning of concepts
  - *Note: The committee does not recommend that "script-like" instruction is followed which may include a strong emphasis on pacing guides, blueprints, or other lockstep approaches that minimize the role of the teacher as a curriculum developer and actively involved in the formation of their instruction.*
- Develop vertical alignment of physics concepts across the curriculum from elementary to post graduate education. *(Everything is linked)*
    - Develop alignment plans with chemistry, biology, earth science, and math.
    - Examine college and university course descriptions and align them to current high school courses.
    - Create a matrix of course descriptions, standards, and concepts with alignment to the Science Literacy Maps.
    - Ensure there is clear progress and agreement of courses across the K-12, University and College levels.
    - Discussion of alignment with FDOE.
    - Ensure proper alignment across the SUS, e.g. align PHY 2101 to UCF Modern Physics course
- Encourage informal science learning via competitions (Science Olympiad, Physics Olympics, JETS), out of school learning, science centers, science nights, and other fun engaging activities that promote lifelong learning. *(Fun and Engaging)*
    - Establish a common calendar of local events, e.g. [www.wiggio.com](http://www.wiggio.com)
    - Work with informal science education organizations to promote lifelong learning
    - Work with Colleges of Sciences to get volunteers in classrooms
    - Identify out-of-classroom experiences that enhance the course content.
    - Promote highly engaging physics clubs

## Chemistry

- Assess college readiness.
  - Develop and assess a common content pre & post advisory /placement test for chemistry that includes scientific method, experimental design, data collection and analysis, results communication both written and verbal (due for discussion at February meeting).
  - Prepare resources for students to do self- remediation.
  - Essential math components (e.g. college algebra as a co-req. vs. pre-req.). Identify skills overlap between chemistry and mathematics.
- Design a remediation plan for at risk college students.
  - Prepare resources for students to do self- remediation.

- Institutions can offer a late/flex start intro course for students who enrolled in CHM1045 but are not ready.
- Essential math components (e.g. college algebra as a co-req. vs. pre-req.). Identify skills overlap between chemistry and mathematics.
- Investigate feasibility of offering non-credit intensive remedial courses.
- Align chemistry-math skills.
  - Essential math components (e.g. college algebra as a co-req. vs. pre-req.). Identify skills overlap between chemistry and mathematics.
  - Develop problem solving skills by decoding and strategizing solutions.
  - Joint meeting with chemistry-math groups.
- Maintain a supportive communication.
  - Create vehicles to obtain students' feedback.
  - Acquire data about existing practices.
  - Promote active sharing on the website (blog link)
- Evaluate students' transition experience.
  - Create vehicles to obtain students' feedback.

## Math

- Continue and initiate more dialogue between elementary schools, middle schools, high school and college level with involvement of DOE and workforce.
  - Distribute (advance) invitations to involved parties (Elementary levels and DOE) to attend future meetings.
  - Invitations to Elementary levels from subject supervisor at the District.
  - (DOE)
  - Contact secondary school business partners with mathematics usage in field (P.R.I.S.M.)
  - Contact Math Education Professors and send invitations
- Provide constant communication of course descriptions and ongoing assessments between levels to include discussions regarding *Common Core* standards and assessments.
  - Course-progression flowchart.
  - Have updated course descriptions, policies regarding grading and technology uses available on websites with accessible views of standards of all courses (K-20) with flowchart as it applies from district to district, college-to-college, etc. (*example: playlist for PrimarySchool:A, MiddleSchool:Q, HighSchool:R, College:B, University:K*)
  - Notify different levels of changes in assessments and standards to include a timeline of upcoming assessments on the website.
- Discuss and align placement process from secondary to post-secondary (6-20).

- Collect information on college placement exams and communicate with high schools on the process, procedures, pre-requisites, co-requisites, and ramifications involving course assignment
- Update high school teachers on college placement exams, requirements, and exemptions.
- Collect information on End of Course exams and updating colleges with said information
- Continue to consistently align the concepts taught and tools and technologies (pedagogical vs. instruction) used in the K-20 levels, modifying instruction to achieve desired learning outcomes.
  - Provide a list of technology policies of schools, colleges, and universities (via website).
  - List technology instruments used by educators, by students and their application (graphing utilities, online homework, virtual calculators, etc.)
  - Communicate with Math Education professors and college/university level Math instructors to work with K-12 educators of mathematics and collaborate lesson planning, modeling best practices techniques.
  - Collaborate with cross-curricular secondary and post-secondary instructors and local industry professionals to create videos and other resource to be used in classrooms demonstrating real-world application of mathematics in different fields and careers.
- Begin discussions on assessments and grading practices at all levels.
  - Create a document on standardized course testing procedures, venues, grading policies among different courses (*example: EOQ and EOC Exams*)
  - Provide syllabi of courses outlining curricula.