Physics Curriculum Alignment

Meeting Minutes

March 5, 2010

VCC East Campus

Present: Xiaodi Chen, Mevlut Guvendik – BCC; Erika Kisvarsanyi – CFCC; Gajendra Tulsian – DSC; Adrienne Battle – Seminole; Anthony Kondoleon – Lake Sumter; Merton Hollister, William Stillwell, Irina Struganova, Joe Bivins – VCC; Thomas Brueckner, Alison Morrison-Shetlar, Craig Tidwell – UCF.

I. Meeting started at 10:15am
   a. Introductions – each member introduced themselves to the group.

II. Introduction and Overview.
   a. Alison spent time giving a historical perspective on curriculum alignment work that has been done to date and the subject matter areas.
   b. UCF has seen an increase in success rates in college algebra because of UCF initiatives. The success rate has grown from 63% to 75% with the implementation of these initiatives.
   c. Word problems continue to be a challenge for students in all subject matter areas.
   d. Reviewed past meeting minutes and alignment work done in the physics courses.
      i. Best practices tend to be consistent across the subject matter areas.
      ii. Will continue to discuss best practices.
   e. Spent time preparing for conference call with Dr. Martin Balinsky from the Florida Department of Education in Tallahassee.
      i. Need to discuss the Modern Physics course numbering issue.
      ii. Discussed the difference between 2xxx and 1xxx course numbering (same course with different first number).
      iii. Need to talk about general physics – x053 and x054.
      iv. Need to discuss physics with calculus – x048 and x049.
      v. UCF is working with VCC on general education alignment. Determining equivalent courses that UCF will substitute for general education from VCC.
      vi. VCC is looking at special topics courses to see if they can be included in general education at VCC.
      vii. Discussed student transient nature between schools.
      viii. The group wants to present the work that has been done to the state to see if they will adopt our findings and recommendations.
      ix. Modern Physics is a 2xxx course at the community colleges, but a 3xxx course at UCF. Daytona offers a 3xxx course.
         1. VCC was asked to change PHY 2101 Modern Physics to PHY 2015 to avoid the issues with the same course having a 2xxx course number and a 3xxx course.

III. Conference Call with Martin Balinsky.
   a. Alison started the conversation by having each member of the group state their name and school affiliation.
   b. Then she spent time providing an overview to Martin of how the group was created and what is currently happening with curriculum alignment between the schools.
c. The Modern Physics numbering issue was discussed first.
   i. VCC mentioned that they were asked to re-number the course.
   ii. Martin explained the problem with the same course having the same number at the 2xxx and 3xxx level. The name change was to avoid this discrepancy.
   iii. Martin shared that the group could draft a recommendation to be sent to the state to change the numbering for Modern Physics from 3101 to 2101 for all institutions. This means that UCF would change its course numbering from 3101 to 2101. The key issue is that lower division content should not be taught at the upper division level.
   iv. Alison stated that the group needs to decide upon leveling the course.
   v. Valencia mentioned that it has not changed its Modern Physics course number yet and will put it on hold until this issue is resolved one way or another.
   vi. Martin referenced that almost all of the schools use x101 as the course number for Modern Physics (x105 is used by Northwest Florida State College). St Pete has a 2105 course. He said that there should not be strong opposition to moving Modern Physics from a 3101 to 2101 course.
   vii. UCF only offers one section per year.
   viii. The group agreed to draft a letter to send to Martin to change the Modern Physics course number to 2101.

d. Alison brought up PHY 1053 and 1054 and asked if they should be 2053 and 2054?
   i. Martin stated that since they are both lower-division course number the state doesn’t really care, but the group can bring a recommendation forward.
   ii. Alison then mentioned that x048 and x049 are lower numbers that x053 and x054, which is out of order.
   iii. Martin said that it is probably not worth changing the numbers for 48/49 and 53/54 since it may just cause more confusion.
   iv. The group agreed to let this issue stay as is and let each individual institution decide.

e. The final recommendation was put forth to move Modern Physics from 3101 to 2101. All members form the committee will be included on the letter.

f. Alison then invited Martin and other relevant stakeholders from the state to attend the curriculum alignment conference to be held at UCF in the fall of 2010.

IV. Other Discussion on Modern Physics.
   a. UCF puts a lot of non Modern Physics material in their modern physics course.
   b. Historically the state didn’t want Modern Physics to be taught at the cc level.
   c. A lot of engineers and physics majors take this course.
   d. State colleges can offer upper division courses – Daytona already offers Modern Physics as a 3000 level course.
   e. Transferability is an issue for this course from the community college’s to UCF.

V. Textbook Discussion.
   a. Seminole has created a packet for general physics (053/054) that is used in their courses that are taught using the studio method. The packet is mainly comprised of labs.
   b. Most schools used Cutnell and Johnson for 53/54; Halliday/Resnick/Walker for 48/49.
   c. Knight and Young and Freedman are also used. Verilles is used by one school.
   d. Physics for Liberal Arts uses Tillery.
VI. Conference Discussion.
   a. The planned conference for fall 2010 will include college and university science faculty (biology, chemistry, math, physics, etc.) and high school science faculty.
   b. This forum will give members of the groups a chance to see what is happening regarding curriculum alignment and best practices across the subject matter areas.
   c. Thomas Brueckner, Gajenda Tulsian, and Irina Struganova volunteered to help with the planning of the conference.

VII. Best Practices.
   a. Group problem solving is used in class to help with learning.
   b. The Valencia lab is a unique experience for students.
      i. They have a seminar room in the lab for students to meet and study.
      ii. Uses UCF physics grad students to work in the lab.
      iii. The web site to the lab is http://science.valenciacc.edu then click on Physics.

VIII. Next Steps.
   a. Tentative meeting scheduled for October 1, 2010 at Valencia West.
   b. Tour of physics lab.
   c. Look at Modern Physics content (x101).
   d. Labs and lab materials.