

# Project Timeline

## Curriculum Alignment

### Computer Programming•Biology•Chemistry•Physics•Math

#### CURRICULUM ALIGNMENT: COMPUTER PROGRAMMING

##### October 2010

Beginning October 2010, a working group of computer programming faculty met to begin to align selected topics in computer programming courses, share best practices and evaluate assessment tools.

##### December 2010

A select group of faculty met to align several of the COP courses in programming. The group started with aligning introduction to programming (COP1000 at most schools) and then moved to Java programming courses. The group agreed to meet in the spring to discuss advanced Java courses and database management.

##### April 2011

At this meeting, database courses (CGS 2540/2545, COP2700, etc.) were examined and aligned. The group also completed the alignment of advanced java and shared best practices. The group agreed to meet in the Fall to examine other courses that are needed to be aligned in web programming and development.

##### October 2011

At this meeting there was lots of discussion on the difference between Web Applications and Web Programming (COP2822 and COP2830). The group thought that it might make more sense to make sure a student has XHTML exposure before they take a programming or scripting course. The group agreed to do some homework on what content should be in each course and may be a point of discussion at the October 28 conference.

#### CURRICULUM ALIGNMENT: BIOLOGY

##### May 2009

A Working Group comprised of the Chief Academic Officers from UCF's six partner colleges and key UCF administrators met and selected Chemistry as the second subject to work on common course alignment. The primary objective is to improve student success for transferring students.

##### October 2009

A core group of faculty representing Brevard Community College, Central Florida Community College, Daytona State College, Lake-Sumter Community College, Seminole Community College, Valencia

Community College and UCF met and selected Biology I and II to compare and discuss ways to align curriculum between and among the seven institutions. In addition, best practices and various teaching aides were shared among the participants.

### **November 2009**

Biology faculty from all seven institutions met for a half-day workshop to compare curriculum for the two biology courses, and to share best practices, teaching aides and assessment tools. They agreed to meet again in April 2010 to continue alignment in anatomy and physiology and a more in depth discussion regarding assessment of learning outcomes, share more best practices and proven learning techniques in the classroom.

### **April 2010**

Biology faculty discussed prerequisites for A&P I and II, and then spent time discussing Anatomy and Physiology 1 and 2 and decided on the major topics and sub-topics for each courses. Then the group discussed course issues, and challenges with students trying to get around course prerequisites. Lastly, the group discussed dissections and how schools were handling dissections for students and/or faculty who had objections.

### **October 2010**

The faculty in attendance had a discussion of transferability between the schools at the meeting. They then talked about UCF and its policy on accepting A&P I & II for Anatomy and Physiology, which is done for nursing students. Next, the group reviewed A&P I and II topics and subject areas. There was much discussion about where and how to include the endocrine system. It was decided to put it at the end of A&P I as a survey topic and then to include it throughout A&P II as appropriate. The group then spent a lot of time getting appropriate topics and subtopics on for microbiology. It was decided that this course did need a new column added to the spreadsheet on depth of coverage. Lastly, the group spent some time looking at prerequisites.

### **February 2011**

Faculty members were introduced to the UCF Office of Pre-Professional Advising with Dr. Bernard Mackey presenting and offering a Q & A. Dr. Mackey explained its primary purpose is to serve pre-professional students to increase their success. The office provides early assistance and advisement with student academic preparation, course selection and career planning. Discussion of the five goals from the Curriculum Alignment Conference provided an opportunity to identify new tasks for the year. Dr. Mohtashem Samsam from the UCF Burnett School of Biomedical Sciences provided an overview of his role with the university while also echoing the discussion of how important aligning anatomy curriculum is. Dr. Samsam offered his continued assistance to the group.

### **September 2011**

Dr. Gary Sligh, Dean of General Education & Transfer Programs at Lake Sumter Community College and President, Association of Florida Colleges, welcomed the group to LSCC. Faculty members deferred the idea of working cross-disciplinary for now so as to continue refining their work together with district and postsecondary teachers. While the group believed that most of the work has been accomplished for

identifying the lab skills necessary for freshman and standardizing high school biology curriculum with labs, more attention needs to be given to the final three goals. Further, there were concerns expressed that high school teachers are not able to cover the mandated map with current time schedules. The group addressed the gap between what K-12 goals/mandates dictate and what postsecondary institutions are expecting.

## **CURRICULUM ALIGNMENT: CHEMISTRY**

### **May 2007**

A Working Group comprised of the Chief Academic Officers from UCF's six partner colleges and key UCF administrators met and selected Chemistry as the second subject to work on common course alignment. The primary objective is to improve student success for transferring students.

### **October 2007**

A core group of faculty representing Brevard Community College, Central Florida Community College, Daytona State College, Lake-Sumter Community College, Seminole Community College, Valencia Community College and UCF met and selected CHM1025, 1032, 2045 and 2046 to compare and discuss ways to align curriculum between and among the seven institutions. In addition, best practices and various teaching aides were shared among the participants.

### **January 2008**

Nearly 20 chemistry faculty from all seven institutions met for a half-day workshop to compare curriculum for the four chemistry courses, review student success rates, and share best practices, teaching aides and assessment tools. They agreed to meet again in September 2008 to continue a more in depth discussion regarding assessment of learning outcomes, review syllabi for each course, discuss how to integrate lectures and labs, share more best practices and proven learning techniques in the classroom, and discuss placement tests.

### **September 2008**

The next workshop was held on September 26, 2008 at Brevard Community College to discuss the learning outcomes for CHM 2045 and 2046, and to agree on common topics for Organic Chemistry I and II. The group agreed to learning topics for the courses and discussed student performance challenges and what skills are needed to be successful in these courses.

### **February 2009**

The next meeting was held February 6, 2009 at Daytona State College. The group discussed placement exams, and agreed to come up with a pilot placement exam for fall 2010. The group also discussed learning outcomes and best practices for Chemistry I and II. The next workshop is planned for September, 2009 and will focus on curriculum alignment for Organic Chemistry and on sharing further best practices.

### **October 2009**

The group started off with a discussion of a Chemistry Placement/Assessment Test Discussion. A VCC faculty presented her results of placement test for students taking chemistry courses from the spring 09, and summer 09 semesters from several of her chemistry courses, utilizing the UCF chemistry assessment exam for her results (30 questions). UCF found that the students were able to do the math on the

chemistry placement exam, just not able to do the math when embedded in a word problem. Next, Organic Chemistry I course content was discussed and outlined. Lastly, the group discussed best practices for chemistry.

### **February 2010**

Valencia hosted this meeting. Reviewed a pilot study being done on chemistry and a strong correlation between student success and scores on the exam was found. The group then discussed the idea of a shared placement exam, and it was decided that it would be best if each institution did this on their own to provide a higher level of institutionalization. Discussed supplemental instruction and what the colleges are doing in this area. Next, a discussion was held on student success issues and discussed use of the Ohio State site as a method for supplemental instruction. Several web sites are available and can be used as a source for students who need additional assistance with a given topic. Completed the General Chemistry I and II course content chart. Lastly, reviewed Organic Chemistry I and worked on Organic Chemistry II.

### **September 2010**

This meeting was held at UCF. Time was spent time discussing supplemental instruction (SI) and the possibility of grant funded opportunities. The faculty discussed the usage of online text materials. Next they discussed an apparent disconnect for some students between Chem I and Chem II. They appear to do a brain dump between courses so they may do well in a prerequisite course but not the follow-up course. A review of Organic Chemistry I and II was done next followed by lab techniques.

### **February 2011**

This meeting was held at Seminole State College. The group discussed the way courses are aligned and the use of the acronyms M for Mandatory, O for Optional, V for Overview and R for Review. A professor discussed her pre-testing of students in some of her classes and the results of her pre-testing and intervention. Next, the group discussed the five goals from Curriculum Alignment conference. Next, the group talked about what is needed by all chemistry students at the high school level. Best practices and deficiencies were discussed, and lastly what college faculty thought high school students needed to know to be successful in college chemistry.

### **September 2011**

Discussion of Chemistry I alignment with post-secondary CHM x045 produced opportunities to examine prerequisites, college level readiness, assessment, and student motivation issues. Labs used at the college level and best practices on lab content/ equipment were discussed. Additional alignment issues such as cross curriculum planning and discussion, middle school involvement, prerequisites, and excess hours problems were identified. There was interest in going back to respective sites to look at data on Math performance in the last finished class compared with Chemistry class grades. The group wants to meet at the same time as the Math group to do some cross-disciplinary work.

## **CURRICULUM ALIGNMENT: PHYSICS**

### **November 2008**

On November 7, 2008 faculty from the seven colleges (including UCF) met to discuss the need to align curriculum in physics. The group agreed that alignment was necessary and that meeting to discuss these issues would be a worthwhile process. The group agreed to focus on PHY 2053 and 2054; PHY 2048 and 2049 for the next meeting in April.

### **April 2009**

The next meeting was held on April 24, 2009 at UCF Regional Campuses. The main purpose for the meeting was to focus on aligning PHY 2053, 2054, 2048, and 2049. Also, the faculty agreed to discuss best practices and the general sharing of information between institutions. The group agreed to common learning topics for the four courses. The group agreed to meet again on October 23, 2009 to focus on learning outcomes for the courses, measuring student success, and sharing best practices.

### **October 2009**

Discussion took place on the correlation between the subject areas (chemistry, math and physics). Best practices are key to the curriculum alignment process. Word problems were discussed and the difficulty involved. Course Topics and identification of requirement for subject areas within the 4 core physics courses (048 and 049; 053 and 054) was done. Reviewed the core topics within the four courses – assigned M for mandatory, O for optional, R for review, and V for overview. There was considerable discussion on the topics and on where content was covered. Five major topics are covered in 053 and 054 (F=MA) - Forces, Fields, Energy, Waves, and Properties of matter. Discussed inviting a state rep to be involved in the next meeting, and discussed measurement of student success. Lastly, more best practices were shared among the group members.

### **March 2010**

This meeting, held at Valencia East, revolved around a conversation with the state DOE. Dr. Martin Balinsky from the Florida Department of Education in Tallahassee was called and the group discussed Modern Physics, and General Physics I and II. The group agreed to come up with a resolution in the future on moving Modern Physics from an upper division course to a lower division course. Lastly, the group discussed textbooks and which book was utilized by which school.

### **October 2010**

The most recent meeting was held at Valencia West in the physics lab. Much of the time was spent on how the lab is configured and managed. Faculty were given a tour of the facility and demonstrations of the various experiments that were set up in the lab. Valencia has a web site where lab information may be found at <http://science.valenciac.edu>. Lastly, the faculty discussed labs and most of the institutions create their own labs for their students.

### **February 2011**

The group started out with a discussion of Valencia's Physics web site, located at <http://science.valenciacc.edu>. Next, the group reviewed the five goals from the October conference, particularly labs and lab topics, and equipment needed. The equipment list created was very comprehensive, and will be re-visited at the next meeting in October 2011.

#### **October 2011**

Discussion was focused on developing an "ideal lab" from the suggested lab equipment document William Stillwell prepared. The resultant list contains major lab equipment, less expensive lab equipment (less than \$250), demonstration equipment, and a consumable replacement line item. It was decided that the first two goals were accomplished and that more discussion was needed at the upcoming conference on how to address the remaining three goals.

## **CURRICULUM ALIGNMENT: MATH**

**May 2006** - A Working Group comprised of the Chief Academic Officers from UCF's six partner community colleges and key UCF administrators met and choose Math as the first subject to begin working on common course alignment. The primary objective is to improve student success for transferring students.

**September 2006** - Nearly 25 math faculty from Brevard Community College, Central Florida Community College, Daytona Beach Community College, Lake-Sumter Community College, Seminole Community College, Valencia Community College and UCF met and choose MAC 1105, MAC 1114 and MAC 1140 as the three courses to focus on. The objective is to align curriculum between and among institutions.

**January 2007** - Faculty from all seven institutions attended a half-day Workshop and compared their respective math course content, student learning outcomes and share best practices. They agree more work needs to be done regarding course alignment and will meet again in the fall of 2007. In addition, UCF math faculty gathered input from the six community colleges regarding MAC 1140, and as a result offered MAC 1140 in fall of 2007 for the first time.

**September 2007** - A representative from the Florida Department of Education State Course Numbering System gave a presentation to the faculty and stated the regional initiative to align curriculum is far ahead of the Department's statewide attempt at the same process. Faculty discussed specific learning outcomes for MAC 1105, MAC 1114 and MAC 1140, and will take the information back to their respective institutions and share with colleagues. Best practices and giving examples of teaching aides and showing various textbooks used in class were also addressed. Faculty will meet in early 2008 and focus on student contact hours for each of the three courses.

**February 2008** - Nearly 20 faculty representing all seven institutions gathered to compare student contact hours for MAC 1105, MAC 1114 and MAC 1140. Although generally the same, there were a few differences that were discussed with explanations regarding the number of hours spent on each area. Faculty agreed to take this information back to their respective institutions and share with colleagues. Best practices were discussed and information shared among participants. The next meeting in fall 2008 will focus almost entirely on learning outcomes for MAC 1105 and MAC 1140 and will compare them by institution. The goal is for the group to agree on a single set of learning outcomes for each course.

**October 2008** - The math faculty met at Valencia Community College's Criminal Justice Institute for this fifth meeting. The focus of the group was to clearly define the information to be covered in MAC1105, and MAC1140. The group went through each topic that is specified by all of the colleges and identified those topics that were mandatory, those that were overview, those that were optional, and those that were review. The faculty then discussed how they would implement these changes to the courses so that alignment could take place successfully. The group agreed to meet again in April 2009 to finalize learning outcomes for MAC1105 and 1140 and to start discussing alignment for trigonometry

**April 2009** - First, learning outcome assessment was tackled by the group. The group then discussed specific ways in which they assessed the learning outcomes that are tied to MAC1105 and MAC1140. The following items were introduced by the group participants during this time. Next, the group went through MAC1114 Trigonometry and agreed to the major topics to be covered and included in the course (see excel spreadsheet). The group used the same identifying system of M for mandatory coverage, V for overview, R for review, and O for optional.

**October 2009** - First, the group discussed best practices for Trig (MAC 1114). Next, online examinations were discussed, particularly how UCF handles testing. Then, the group went through MAC2311 Calculus I and agreed to the major topics to be covered and included in the course (see excel spreadsheet). The group used the same identifying system of M for mandatory coverage, V for overview, R for review, and O for optional. On the next page is the table listing the results of this effort.

**February 2010** - The group discussed the idea of a “best practices” conference for the fall of 2010. All in attendance were in favor of such a conference. The group then spent the majority of the time covering the major topics and sub-topics for Calculus II and III. The topic list was reduced and combined to make a shorter and more relevant list.

### **September 2010**

The group started out the meeting with a discussion of early and late transcendentals for both Calc I and Calc II. They then made some changes to Calc I and II course content. Next, they briefly discussed the need to align Business Calculus and discussed the possibility of aligning Differential Equations at a future meeting. They then spent time looking at Liberal Arts math MGF 1106 and 1107 and covered the major topics for both courses. Then they proposed for 1107 that the first 2 topics should be mandatory, and then select 3 topics from the remaining sections listed. Lastly, faculty from engineering, biology, and chemistry discussed with the group the math skills that are needed in their respective areas.

### **February 2011**

The meeting was held at UCF in Partnership II. The group discussed the five goals from the October Conference. The group then aligned MAT 1033 – Intermediate Algebra, and the group looked at STA 2023 Elementary Statistics. Lastly, the group discussed the issue of the top-down approach to math education from the state.

### **October 2011**

Discussion focused on review of MAT 1033 and how the state mandates affect coverage of content issues and testing. This provided for introduction of Tammy Muhs, General Education Coordinator, UCF Math Department, and state representative for Math on PARCC (Partnership for Assessment of Readiness for College and Careers). Tammy was on the Academic Diploma Project sponsored by ACHIEVE and that looked at Math students and testing issues. She helped us recognize that the

Common Core State Standards are currently being used as the foundation for course development and testing benchmarks. Further, there was review of STAT 2023. A final report of activity from the year will be provided at the upcoming conference.