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### EXECUTIVE SUMMARY

#### **Chemistry:**

The mission of the Los Angeles Harbor Chemistry Department is to provide the students with college level courses that are transferable to the UC and CSU systems. Currently the courses have the option of honors through the use of Honors Contracts. Currently the development of honors sections is being developed by the HTCC (Honors Transfer Council of California) in order to full-fill UCLA-TAP (Transfer Alliance Program) requirements.

The chemistry program contains two pathways:

1. Allied Health – These are the non-science majors who are seeking a career in the health fields such as nursing. The students in this pathway take chemistry 065- *Introduction to Chemistry* and chemistry 066 – *Introduction to Organic and Biochemistry*.
2. Science – These are the science majors who are seeking to transfer to a 4 year college to major in a science field such as Engineering, Chemistry, Physics, and Biology. The students in this pathway take Chemistry 101 – *General Chemistry 1*, Chemistry 102 – *General Chemistry 2*, Chemistry 211 – *Organic Chemistry 1*, and Chemistry 212 – *Organic Chemistry 2*. In addition to the transfer students, these courses are also used as pre-requisites for medical school, pharmacy school, and dental school.

**Chemistry** - <http://www.lahc.edu/slo/ChemistryAssessment.html>

We are in desperate need to incorporate a yearly budget of at least \$500 in order to repair damaged equipment and to buy essential supplies so we can provide suitable lodgings to our current course offerings.

#### **Child Development**

The mission of the LAHC Child Development Department is to provide quality vocational, transfer, and continuing education programs in the field of Early Childhood Education (ECE) in a supportive, educational environment. Coursework is offered that meets California Child Development Permit requirements for associate teacher, teacher, master teacher, site supervisor, and program director positions.

A curriculum that enables the students to successfully meet the Program's Learning



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Outcomes will insure the mission of the Child Development Department is reached. The Child Development Department outcomes are as follows:


- PLO #1 (ILO 2) Demonstrate the use of developmentally appropriate practices for young children.
- PLO #2 (ILO 5) Evaluate and demonstrate the roles of Early Childhood Education professionals in preparing children for school success. Assessment: Spring 2012
- PLO #3 (ILO 1) Plan and implement curriculum domain experiences/activities for preschool and/or school-age children.
- PLO #4 (ILO 5) Advocate for children's rights to develop their potential for becoming productive, well-adjusted members of society.
- PLO #5 (ILO 5) Implement a plan for professional success to include obtaining a California Child Development Permit to qualify for employment in programs receiving funding from Federal, State, private (profit and non-profit), and family child care sources. Assessment: Spring 2010
- PLO #6 (ILO 4) Develop practical ideas for implementing culturally relevant and anti-bias education in core curriculum areas.
- PLO #7 (ILO 3) Collect data from a variety of resources including the Internet , then transfer and/or apply information into a product or an action.

The need to train students for employment in the ECE Industry is supported by research. A \$210,000 study funded by a collaboration of LAUP, Los Angeles County Child Care Planning Committee, and the City of Los Angeles Workforce Investment Board found that the Early Child Care and Education sector generates more than \$1.9 billion annually in Los Angeles County and employs more than 65,000 people. Yvonne B. Burke, chair of First 5 LA Commission and the county's Children's Planning Council, stated,

"Small ECE businesses not only educate and care for our children, but lay the groundwork for the county's future economic success by preparing the next generation for constructive participation in the economy, which will help in attracting business to the area."

September 2008-Governor Arnold Schwarzenegger signed two bills, SB 1629 and AS 2759. The bills streamline funding for preschools and improve program quality. They are the result of research that indicates children that attend quality early childhood care programs are better prepared for kindergarten and elementary school and are at a lower risk of dropping out of school. The need for teachers with higher level permits and degrees will become even greater. The Child Development faculty look forward to meeting the needs of additional students.

This year the Department will continue a system of documenting the number of students receiving A.S. Degrees and Career Technical Education Certificates as well as students applying for and/or upgrading California Child Development Permits. The task of

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revising course outlines and entering them into the ECD System was completed during the 2010-2011 academic year. One-unit courses and/or workshops will be continued to meet elective credit and/or professional growth hours. Planning and course development will be continued to allow the Department to join other California community colleges in aligning our courses to facilitate an easy transfer for students to four-year institutions. CH DEV 004 has been aligned to the course content of the newly district established CH DEV 007. During the 2014-2015 academic year, the Child Development Department intends to offer CH DEV 007 in Lieu of CH DEV 004.

At the recommendation of the Child Development Advisory Committee, faculty will continue to attend seminars and conferences to gain knowledge of early care and education trends in the ECE Industry. This will facilitate the faculty in addressing current trends in their coursework and provide topics for workshops presented for students and community ECE educators. During the 2013 Advisory Committee meeting, recommendations were made to provide students/mentors/community childcare providers with training in quality care standards, observation and assessment techniques and the "CLASS" (Classroom Assessment Scoring System) rating system.

Additionally to support the belief of the Child Development Department that early childhood experiences must allow children to explore/ investigate and experiment with age-appropriate materials, the Department will continue the work outlined in the 2010-2014 CTE proposals. Child Development faculty will integrate STEM curricula with other domains essential to the development of early learning foundations. During the years from 2010 to the present academic year, faculty 1) researched, investigated and developed STEM curricula that has and will be used to update the appropriate courses and 2) began acquiring supplies and equipment that are/will be used to prepare practicum and curriculum students to integrate STEM activities in lesson plans. The activities focus on developmentally age-appropriate concepts in the areas of mathematics and science. The outcome of the proposed projects will continue to provide Child Development students with the knowledge to develop and implement curricula promoting science, technology, engineering and mathematics.

The above mentioned Child Development Advisory members suggested the need for students to continue taking Child Development courses in order to succeed and advance in the work environment. The importance of the practicum courses for classroom training was noted as the members indicated numerous practicum students have been hired after completing said classes. The Child Development faculty will continue to emphasize the importance of improving writing skills for lesson planning, documentation and assessment reports. Writing assignments have and will be evaluated by using CD Department

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developed rubrics. Ideally the rubrics will alert students to areas of need and instructors will help them seek the appropriate assistance (i.e. enrollment in English classes; frequenting the Learning Assistance Center English Lab). The Child Development Advisory Committee recommended an orientation class or workshop to help students realize the many careers associated with a Child Development Degree and training in recognizing children with special needs.

The Child Development Department celebrates the moving to a new home in the Science Complex as of the Fall 2013. Students and faculty appreciate the excellence of the environment including Smart classrooms providing access to current technology.

### **Culinary Arts:**

The mission of the LAHC Culinary Arts Department is to provide quality career technical and continuing education programs in the field of Culinary Arts in a supportive, educational environment.

A curriculum that enables the students to successfully meet the Program's Student Learning Outcomes (PSLOs) will insure the mission of the Culinary Arts Department is met. The Culinary Arts Department has identified the following as PSLOs.

Students will be able to:

- Demonstrate proficiency in any station of a commercial kitchen including the Garde Mange, butcher, savory, pastry, and short order areas.
- Execute the art of cooking as needed by commercial and institutional segments of the hospitality industry at production and supervisory/management levels.
- Manage a small restaurant operation including the aspects of facilities design, marketing, menu planning, hosting, serving, purchasing, cost controlling, bookkeeping, cashiering, and human resource development.

Employment in foodservice will continue to be in demand despite the economic downturn. The demand for entry level, skilled, and managerial foodservice workers remains very optimistic based on the LACCD Los Angeles Harbor College Occupation Report -Culinary Arts, the April 2009 External SCAN 2008-2018 Economic Trends Report and the National Restaurant Association 2009 and the California Restaurant Industry Forecast.

Restaurant jobs in California will represent 10% of total employment in California with a forecasted 14.9% job growth for the 2009-2019 cycle. In 2009 California restaurants will register \$56.2 billion in sales with each additional \$1million spent in California eating and drinking establishments will generate an additional 27.2 jobs in California.



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Curriculum will continue to be developed to provide students with the opportunity to prepare for supervisory and management level positions. In the future students will be able to transition from their culinary training to courses in food and beverage management.

A systemized plan for curriculum development of new courses to complete a Skills Certificate in Baking and Pastry Arts will be developed. The courses to be completed in order for a student to earn said certificate include:

- Breads of the World,
- Cake Design,
- Advanced Baking Skills,
- Retail Bakery Management,
- Cooperative Education in Baking and Pastry Arts I.

A long range plan is to develop an associate's degree in Baking and Pastry Arts. Additional advanced classes planned for such a degree include:

- Pastry Arts,
- Introduction to Chocolate Cookery,
- Introduction to Sugar Arts,
- Principles of Quantity Baking,
- Advanced Cake Design,
- Advanced Chocolate Cookery,
- Cooperative Education in Baking and Pastry Arts II.
- 

Additionally a plan to develop a Skills Certificate in Food and Beverage Management will be established. The courses planned for said certificate program include:

- Supervision in the Hospitality Industry,
- Facilities Management and Design in Hospitality Management,
- Human Resources Training and Development for the Hospitality Industry,
- Planning Control for Food and Beverage Operations,
- Culinary Arts Cooperative Education/Food and Beverage Operations I.

Eventually an associate's degree in Food and Beverage Management will be offered. Courses needed to complete the said degree would include those listed for the Skills Certificate in Food and Beverage Management and the following:

- Managing Technology in the Hospitality Industry,
- Hospitality Sales and Marketing,
- Basic Beverage, Restaurant and Hotel Accounting,
- Hospitality Law,
- Culinary Arts Cooperative Education/Food and Beverage Operations II.

A plan and initial implementation of a partnership with industry to facilitate a step program of work experience is essential to growth of the Culinary Arts Program. Students will be required to work:



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Step 1--300 hours at the LAHC Kitchen and Restaurant in addition to the required hours for the laboratory component of the academic program courses,  
Step 2—200 hours of kitchen rotation at a coffee shop, quick-service restaurant, hospital dietetic department, or institutional foodservice operation,  
Step 3—200 hours of work rotations at upper-end restaurants.  
Note: The work experience will meet a portion of the American Culinary Federation Requirement of 700 hours of experience for certification.

Industry trends offer insight into forecasting employment, consumer demands, and product offerings. As consumers become more knowledgeable and sophisticated about food and beverage choices, the restaurant industry must respond with nutritional and healthful choices. Changing trends also increase the need for education in the field of food service.

According to the Restaurant Association's 2010 survey, fine-dining operators are most likely to add new food items to the menu with healthy options for children. Top menu trends for 2011 at quick serve restaurants include;

- Locally sourced meats and seafood
- Locally grown produce,
- Sustainability
- Nutritious children's choices,
- Hyper-local items,
- Nutritious children's options with a culinary theme,
- Gluten-free/food allergy-conscious items,
- Back-to-basics cuisine,
- Farm-branded ingredients.

Full service restaurant menus reflect additional popular trends that include micro-distilled/artisan liquor, locally produced wine and beer, half/smaller portions for reduced prices, organic produce, nutritious/healthful options, culinary cocktails (e.g. savory, fresh ingredients), newly fabricated cuts of meat, and fruit/vegetable side dishes for children, ethnic inspired breakfast items, and artisan cheeses.

Changing trends predict boundless opportunities for employment in the growing restaurant industry. Ninety-four percent of restaurant employees agree that the restaurant industry provides meaningful opportunities to gain basic work skills and often provide access to advanced lifelong career opportunities. The restaurant industry is known for providing all ethnic backgrounds the opportunity to become business owners. Moreover, these opportunities are based upon individual talents and hard work.





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As the national economic outlook improves, the restaurant industry forecasts job growth beginning in 2011. The National Restaurant Association has projected an increase of 2.4% in employment at food establishments. The industry expects to outpace the overall economy in job rate increases, holding position as the nation's second largest private employer with 10% of the nation's total job base. By 2021, the restaurant industry is expected to employ an additional 1.3 million individuals.

The restaurant industry is projected to show the strongest gains among positions that combine food preparation and service. The number of chefs and head cooks are estimated to increase 11% from 2011-2021. Other cook positions are expected to show a growth of nearly 10% during the same timeframe. Management positions are also expected to grow at a rate of nearly 8%. First-line supervisors and managers of food preparation and serving staff are expected to increase by 12%. Restaurant workforce is expected to exceed 14 million by 2021, with an increase of an estimated 1.3 million jobs added in the restaurant industry.


### **Geography**

The new Science Complex Geography Room 109 is a fantastic classroom: students like to come, and some don't want to leave because the learning atmosphere and plant beauty are like magnets.

Geography is not merely "general education": a global perspective, thinking critically and geographically are survival skills in today's world: we aim to expand students' global and spatial thinking and 'brain inter-connectivity' with comparative world and regional map analysis, nature observations, drawings of landforms, rocks, plants, comparisons of resources and economic livelihoods. Weekend field trips take advantage of nearby canyons, Pacific Ocean coast, local interpretive centers, plus the great multicultural diversity of Los Angeles ethnic neighborhoods for '3-D' enrichment and long-term memory. Outdoor observations are especially vivid; writing about and drawing them foster longevity and connections in the brain. Students regularly report several years later, "I love those field trips we went on!," "I still watch the sky!," and "I go hiking all the time now."

In Fall 2013, 68% of Geography 1 students passed comprehensive final exams (by Scantron summaries), and many now are top A's. In both Geography 7 World Regional Geography and Geography 15 Physical Geography Laboratory (evening courses), A's and B's dominate final grades; and students are more prepared to transfer.

December 2013 Geography course evaluations showed that most students praise the courses, field trips, classroom, and many admitted they did not study as hard as they should have. The two Geography 1 books, Smithsonian Earth and Physical Geography,

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A Self-Teaching Guide, have saved students money, but because a 2014 goal is to specifically increase their success rate, the new Visualizing Physical Geography text can help students with many online resources and practice test questions, to try to raise up their thinking skills and retention. In Spring 2014, course SLO's will be re-assessed and reworded to match the Transfer Model Curriculum Geography Programs around the state.

### **Geology/Oceanography**

Despite being a pair of non-major, elective course offerings, Geology and Oceanography classes have been steadily growing in student enrollment over the past ten years. Student learning outcomes have been established and are in the process of being synchronized with SLOs of other pathways that are categorized with Geology/Oceanography in the Earth Sciences and Physical Sciences. The classroom (SCI 210) used for these courses needs audio video improvements. We are eagerly awaiting the completion of the new Science Building Complex which will add much needed classroom technology. Additionally this classroom lacks a proper cooling system making it very uncomfortable during warm days. The new building will be a solution to this issue. As housing/storing of many currently owned geological pieces equipment and rock samples in the New Science Complex is an issue, storage in the new facility will be a solution to this problem. The two courses are intimately related to students attending numerous field classes, funding for transportation, and support materials.


The Geology/Oceanography courses will be taught in the new Science Complex beginning in Fall 2012.

### **Life Science:**

Los Angeles Harbor College Mission: Los Angeles Harbor College fosters learning through comprehensive programs that meet the educational needs of the community as measured by student success, personal and institutional accountability, and integrity.

The mission of the Los Angeles Harbor College Life Sciences Program is to provide a supportive, quality, educational environment for students transitioning or



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transferring into a variety of biological and medical science-related programs, and students fulfilling general associate degree and transfer requirements. A curriculum that enables the students to successfully meet the program's learning outcomes will ensure the mission of the Life Science Program is reached. The Life Science Program are as follows:

PLO #1(ILO 2): Students comprehend proper microscope components and functions.

PLO #2(ILO 2): Students comprehend cells as a common thread in all living organisms.

PLO #3(ILO 3): Students can evaluate the validity and limitations of scientific theories and claims.

PLO #4(ILO 5): Students demonstrate continued academic preparedness.

**Activities to address program needs:**

Some of our faculty members (Sue Yoder and Randy Wade) have completed some requirements for teaching online courses (ETUDES certification). This will allow our department to offer more courses to students that potentially live in more remote areas and can better fit online schedules into their lives.

Our faculty will continue to regularly attend workshops, seminars, and conferences to update curriculum and improve instruction. Faculty members actively participate in several campus committees, we are part of the STEM grant program, and are involved in community issues.

We have purchased some new anatomical models, skeletons, and loose bone collections to replace damaged items, but we still need more to continue replacing damaged items. We also need more equipment and supplies to fully accommodate our current course offerings, especially in the Majors Biology courses. This includes the following:

**1. How are your program improvements associated with your SLOs:**


We moved into a new State-of-the-Art Science Complex, which includes internet access, multimedia projection capability, and some new equipment. A computer is available in every lab. Laboratory instruction includes state-of-the-art software, basic biotechnology equipment, microscopes for non-majors and anatomy laboratories, and digital microscopes for microbiology laboratories. Our faculty is working to incorporate the new technology into our curricula to enhance instruction and increase student success. Students are actively utilizing the student collaborative learning areas for group study and tutoring sessions.

**Facilities requirements:**

IT Support  
Custodial Services  
Plant Facilities Support

**Implementation plan:**

With faculty involvement, quality courses and training, and continued funding, the

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department will be able to provide students with courses necessary for transfer, graduation requirements, and admission to allied health programs. This goal will be achieved by the activities cited in question 2 of this document. The move to the new Science Complex which houses our Life Science Program enriches learning environments and opportunities benefiting both faculty and students.

### **Physics Department**

The inventory of Physics Department equipment is not complete. The inventory may not be completely fixed until summer 2014. The plan is to not only provide an accurate inventory, but to list the equipment and equipment location for each lab, for each course. A professor would only have to go to that listing to find the equipment for the day's lab, and use that listing to return the equipment to the proper location when the lab is finished.

The descriptions of the Physics and Physical Science courses in the Schedule of Classes need to be updated. Professor Morris proposed a new set of descriptions to the Division Chairperson for fall 2014 Schedule of Classes.

A blockage has developed in moving students through the system. Currently, Physics 11 or its high-school equivalent is required for Physics 37 (the first of the three calculus-based engineering courses), because otherwise too many students would attempt to enroll at the start of the semester and be turned away, and those that did get in would experience a high failure rate because so many of them would be unprepared. Unfortunately, so many students are now applying to enroll in Physics 11 that we are turning away dozens every semester, as there is not enough lab equipment for more than 35 students. As a result, students can't get the Physics 11 preparation they need, and the Physics 37, 38 and 39 sequence is under-utilized.

Some new equipment should be purchased, to replace old and worn-out equipment such as the vernier calipers and micrometers. An informal 'wish list' was used in the past to keep track of needed purchases. Such a list would be useful, if a yearly budget were provided for such purchases. We are in desperate need to incorporate a yearly budget of at least \$1000 in order to repair damaged equipment and to buy essential supplies so we can provide suitable lodgings to our current course offerings.

### **ACTIVITIES DESCRIPTION NARRATIVE** (not in order of priority)

**Activities Description Narrative:** please describe suggested activities, including grant proposals to be written, new course or program initiatives, or program viability studies in priority order.

1. Maintain and add offerings essential to providing students with courses needed for 1) pre-requisites to health fields; 2) general education requirements that lead to certificates, AA and AS degrees, and transfer certification; 3) CTE degree




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- requirements.
2. Continue assessment at the course, program, and institutional level.
  3. Continue collecting, purchasing equipment, and supplies needed to maintain and enrich classroom environments that stimulate reflective thought in all SCI/F&CS Departments.
  4. Purchase a service contract for microscopes for science laboratories to maintain the quality and precision of the instruments.
  5. Purchase service contracts for copy machines in Science and Family Consumer Studies Departments.
  6. Attend conferences and workshops to further professional development that is essential for faculty to gain knowledge into current trends/research and to network to update course content.
  7. 1) Research, investigate, and develop STEM curricula that will be used to update the appropriate courses, 2) begin acquiring supplies and equipment that will be used now and in the future to prepare practicum students to integrate STEM activities in lesson planning, 3) Plan and host a workshop for future and current educators (representing LAHC and local community members) that exposes participants to STEM activities.
  8. Continue to present the annual LAHC Child Development Conference in addition to various other workshops which provide present and future ECE educators (LAHC students, Mentor Teachers, and community early care providers) with innovative domain concept ideas and activities.
  9. Access training for use of software and/or equipment.
  10. Revise course outline for Child Development 22 to include prerequisites of Child Development 3 or 4. Mentor teachers and supervised field experience instructors have reported that students who have not completed the suggested prerequisite are unsuccessful in planning and implementing developmentally appropriate activities in an ECE setting.
  11. Track student success for entrance into the LAHC Nursing Program.
  12. Promote professionalism by encouraging students to join NAEYC (National Association for the Education of Young Children) and affiliates that provide training workshops, networking, and employment leads. (A NAEYC representative will be asked to speak in Child Development classes to advise students of the benefits associated with membership.)
  13. Participate in the planning and offering of workshops, counseling, outreach classes as a partner with the Boys and Girls Club of America located in Harbor City and Narbonne High School while meeting the guidelines of the First 5 Los Angeles High School Recruitment Pilot Program Grant.
  14. Develop a one-unit elective course every two years to meet a graduation requirement or professional growth hours (105 hours required every five years to renew California Child Development Permits). Proposed topics include Music and Movement, Positive Discipline, and Learning Disabilities. Additional topics will be delivered at the advice of the Child Development Vocational Advisory Committee.
  15. Support student success by providing detailed syllabi and participating in campus activities that provide techniques for students to improve in essential skills.

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16. Continue to collect data on the number of students graduating with an A.S. Degree and/or number of students receiving a LAHC Child Development /Culinary Arts Career Technical Education Certificates.
17. Track employment of current Child Development and Culinary Art Students in positions in associated fields. (surveys)
18. Develop a one-unit course in field geology.
19. Begin preparation to apply for program accreditation with the American Culinary Federation.
20. Hire student workers/tutors to assist in curriculum and practicum laboratories.
21. Develop curriculum to establish a Culinary Arts Certificate with a baking emphasis.
22. Hire six (two instructors per semester) non-teaching adjunct instructors for the Culinary Arts at 24 hours per week (.6 assignments) per instructor.
23. Present new course outline for CH DEV 007 to the Campus Curriculum Committee to replace CH DEV 004.
24. Life Science Faculty will initiate participation in HIS-Grant by coordinating efforts with STEM participants in other departments to modify curriculum and establish supply and equipment needs to enrich courses with the outcome of identifying students committed to Life Science majors.

### SLO ASSMT RESULTS NARRATIVE

**Child Development** - All of Child Development courses have completed course outlines in the new ECD system and all of our courses have SLO assessment forms posted on the LAHC website. Most of our courses have completed one round of SLO assessment. Additional results are in the process of being posted and posting will be completed by January 2012.

**Life Science** - Life Science courses have completed course outlines in the new ECD system and all courses have SLO assessment forms posted on the LAHC website. Most of the courses have completed one round of SLO assessment and are beginning a second round. SLO assessments have been completed for the following courses: Anatomy 1, Biology 3, Biology 5, Biology 101, 102, and 103, Environmental Science 2, Microbiology 20 and 40, Physiology 1. Biology 33 has the means of assessment completed and data collected is being compiled.

**Culinary Arts** – Assessment for all Culinary Arts has been completed and can be viewed on the LAHC website.

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**Geology/Oceanography** - The final assessment reports for the Oceanography, Environmental Science, and Geology courses will be completed and reported by January 2012.

### STAFFING IMPLICATIONS

**Chemistry** – A full-time laboratory technician is needed to prepare the laboratory solutions and to set up the laboratory equipment. Other responsibilities include keeping an up dated inventory list and ordering supplies as needed.

A sufficient number of qualified faculty members are also required in order to staff the laboratory sections of each course.

**Child Development** –The Child Development Department experienced two retirements during the 2010-2011 Academic Year. Budget cuts mandated reducing the number of classes taught in the Department during the 2011-2012 Academic Year. Adjunct faculty were assigned to cover the few remaining classes originally assigned to the retirees. The need for a full-time faculty position will be dictated by the future economic state of the college. Certainly the reduction of faculty impacts the presence of the Department in governance and standing committee meetings.

**Culinary Arts**

We are currently in need of at least two (2) full time faculty and four (4) adjunct faculty positions in order to maintain a quality education delivery for our students. We also need seven (7) to eight (8) student workers and two (2) instructional lab assistants to assist in the laboratory component of the curriculum.


**Geography-** In order to meet the demands of course offerings, staffing positions could be added to teach Geography 1, 2 and 7.

**Life Science**

Upon retirement of any fulltime faculty member, replacement will be essential to conduct the varied responsibilities associated with keeping the Life Science Program viable and respected. Additionally, a second fulltime or part-time laboratory technician would improve our ability to meet students laboratory needs. Also, it is imperative that a tutor is hired to assist instructors in the anatomy labs.

**Physics**

In order to meet the demands of course offerings the department is in the need to hire at least

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one other full-time professor. Years ago, the Department had three full-time professors (Morris, Bob Fielding and Joan Fu).

The Department also needs a stockroom technician to replace Russ Whiting, who retired a couple of years ago and was not replaced. Broken equipment (e.g. the free-fall apparatus) is not being repaired, and the professors are often at a loss to know what equipment is required for the labs, or where that equipment is. More significantly, the professors may not know where to return the equipment that has been taken out of storage for use by the students, and there is a danger that equipment will be hidden away at an incorrect location.

### TECHNOLOGY IMPLICATIONS

**Chemistry** – Provide the students with updated technology. In addition to working with a standard laboratory set-up, the following should also be available:

1. Computers – The students must be computer literate upon completing a STEM major. This includes word processing, spread sheets, graphing programs, and molecular modeling software.
2. Instrumentation – pH meters, UV-vis spectrometers, GC, HPLC, FT-IR, NMR.

**Child Development** - Information technology will be needed to meet needs for use/update of computers, programs, email accounts, and voice mail.


**Culinary Arts** – The Culinary Arts Department additionally needs IT support for continued computer usage. Plant Facilities is called upon frequently to maintain and repair the equipment essential to the operation of the Culinary Arts Program. Refrigerators, freezers, ovens, mixers, slicers, etc. receive heavy use, and preparation of work orders for Plant Facility representatives' assistance is a weekly occurrence.

#### **Life Science**

A limited number of new laptops and desktop computers are available in the new Science Complex. These new devices require consistent maintenance, service, and upgrades to keep pace with ever-changing technology. Additionally, we need approximately 40 more laptops and appropriate software to effectively meet student needs

**Oceanography/Geology** – Up-grades are essential to the use of the class set of laptops. Reinstatement of the wireless Internet is needed to present current material in the class with the use of the class set of laptops.



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Maintenance of department copiers is an ongoing need of all faculty of the Science/Family & Consumer Studies Division.

**Physics-**