
Absent: Donna Mullenax & Poorani Shanthakumar

I. Call To Order: The meeting was called to order at 12:00 noon on November 17, 2010 in Room 2502. Dr. Will Lynch presided.

II. Standing Items
A- The Minutes from September 22, 2010 were approved with one modification. Under Section V, F, i, it should read Fred Chang was accepted at the University Of Maryland College Of Pharmacy.

III. Monthly Report
A. Faculty Senate – The Faculty Senate had its meeting on November 15, 2010. The following items were discussed:
There were two resolutions sent from the Senate to the President.
  1- The first resolution was regarding summer pay.
  2- The second resolution was regarding the right of faculty members to refuse making any statements or signing any forms that are in conflict with their intellectual integrity.
  3- The UCC item regarding the creation of PSYC 1200 and its placement in Core Area D was remanded back to UCC.
  4- A campus-wide committee made up of faculty, students and staff will be looking at Armstrong becoming a smoke-free campus.

IV. New Business
A. Committee Reports
   i- The Physics Planning Committee finished the instrument list and submitted it to Dr. Lynch. Please refer to Attachment #1 for more details.

   ii- The Chemistry Planning Committee, also, submitted the instrument list to Dr. Lynch, but in addition requested that the faculty take time to put together a maintenance list in order to ensure that the equipment be serviced periodically so it can run in an efficient manner. This list should include the time spent servicing the equipment, how often it is serviced as well as any expenses incurred in maintenance. Please refer to Attachment #2 for more details.
iii- Physics Curriculum Committee - The Committee met on October 28/2010 and the following items were discussed:

Item 1. Adding the pre-requisite of PHYS 2211K and correcting typos in the pre-requisite for PHYS 3312. Both requests have already been done.

Item 2. Approving a new CURCAT for PHYS 4950 to ensure that the course is repeatable for additional credit and adding a friendly amendment of 9 maximum hours for this course. The faculty voted unanimously in favor of adopting the proposed changes.

Item 3. Approving the removal of ENGL 3720 from the Related Field Courses for the Program for the Degree B.S. in Applied Physics. The faculty voted unanimously in favor of the change.

Item 4. Approving the creation of two physics courses: PHYS 3801K MODERN PHYSICS and PHYS 3700K OPTICS and the deletion of PHYS 3801/3801L. The faculty voted unanimously in favor of adopting the proposed changes.

Item 5. Approving a new course: PHYS 1000 PHYSICS FRESHMAN SEMINAR. The faculty voted unanimously in favor of the change.

Item 6. Modifying the Applied Physics Program. The faculty voted unanimously in favor of adopting the modification of the Physics Program Study.

Please refer to Attachment #3 for more information regarding the above changes.

iii- Assessment Committee - The committee met on 11/16/2010 and the following items were discussed:

1- The Toledo exam data was looked at and it is in compliance with the previously collected data.
2. ACS database for student tracking was discussed and Dr. Baird agreed to help create an MS access database. Also, in regards to the ACS exams the following reminder was made:
   a- If you are teaching General Chemistry I or II, you use the ACS exams, which are located in one of the cabinets in the Conference Room.
   b- That you are to take the exams just prior to administering the exam and you are to return them promptly after you used them.
   c- You are to ensure that students are not writing on the book.
   d- You are to ensure that the 907 number is on the exam so we can keep track of the students.
3. The committee looked at Physical Chemistry I data collected over the last 3 years and reported that:
a. Students were more likely to pass Physical Chemistry I if they had more than one semester of calculus (62% pass if only had Calculus I, 81% pass if had more than Calculus II).
b. Students were more likely to pass Physical Chemistry if they received a C or better in Calculus I. (25% pass if only have a D in Calculus I, 71% pass if had a C or better in Calculus I). Note there is only a small number of students who got a D in calculus and take Physical Chemistry I).

The committee decided to have Dr. Lynch to call a chemistry meeting on the math requirement in physical chemistry related to the BS / BA degrees. The committee is also looking at other universities to see what other schools do.

4. The committee discussed what tracking should be applied to our physics majors beyond the PHYS 1111 / 1112 and PHYS 2211/2212 series.

5. Dr. MacGowan informed the faculty that she has the new key for the General Chemistry exams. Please refer to Attachment #4 for more information.

B. T & P document for CST
The Tenure Track and Permanent Faculty have a meeting scheduled on December 7 in room 1407 at 9:00am. Everyone is encouraged to attend the meeting.
Most likely the CST will proceed with the ratification of the document on that day and assuming that it does, the department will start working on its T&P document starting on January 2011. Dr. Lynch has a number of Fridays as options to meet and will send those dates shortly to everyone.

C. Grants Policies and Procedures
Currently submitting a grant proposal requires only one week lead time, but the following changes will be put in place in the future:
1- You will be required one week to submit a grant proposal to the Grants Office.
2- You will be required to submit the grant proposal to the Department Head 7 business days ahead.
3- You will be required to submit the grant proposal to the Dean’s Office 6 days ahead.
4- If more than one department is involved or more than one college is involved, then you will be required to turn in the grant proposal ten business days ahead.
5- It will be the PI’s responsibility to ensure that the Grants Office is aware well in advance about the submission of a proposal.
6- It will also be the PI’s responsibility that both the Dean’s Office and the Department Office will be available at that time.

D. Graduate Courses
The Dean’s Office is asking us to delete the following courses:
*GEOL 6100, METR 6100, OCEA 6100, PHSC 7150, *PHSC 7640, *PHSC 7641,
*PHSC 7642, *PHSC 7950, PHYS 7020 and PHYS 7940. Please refer to Attachment #5 for more details.
Currently, the courses with the asterisks are being used; the others, have not been used in a while. There was a motion to delete the courses that are not being used. The faculty voted and there were 18 votes in favor of deleting the courses not being used and one abstention.

E. Registration Items from Spring 2011
Dr. Lynch thanked the faculty for all the hard work during registration. Right now all the courses offered are pretty much full with the exception of a couple that most likely will be okay since registration is not yet over with.

F. On-line Course Development for CST Core B or D
We have been asked by the Dean to consider offering on-line courses on Area B or D to meet the President’s agenda to promote on-line courses. There are some courses like ASTR 1010, CHEM1151, CHEM 1152, PHSC 1211 and SCIE 1000 that could contribute to on-line education and could be offered without a lab but we should discuss the matter as a department prior to committing to it. There is $3,000 available to faculty members to use for the development of these on-line courses. Please discuss with the Department Head and Dean if you have an interest and apply through the Vice-President’s Office.

G. Technology Fees & Technology Changes at AASU
The Educational Technology Committee posted a document of the web regarding technology fees and a new grants system for University entities to use. It appears the guidelines of this document as it is restrictive beyond what the BOR says technology fees could be used for.

H. Lab Fees
We received a memo from the Vice-President for Business and Finance regarding student fee proposals. The faculty did not see the need to raise students’ fees at this moment. Please refer to Attachment #6 for more details.

V. Old Business
A. Advisement is almost over and all that remains to be done is to turn in a list of the students you advised during this period to Gladys.

We do not have that much to inform in regards to the budget at this moment, except that the University is expecting a 10% budget cut on the next fiscal year.

C. Faculty Search
We are still waiting to hear news regarding the status of the faculty search, so we have no report at this moment.

VI. Announcements
A. Mr. Jaynes announced that there is a UCC meeting at 3pm in UH this afternoon. He added that e-core most likely be voted on today and urged everyone to attend the meeting.

B. November 18, 2010 - Coastal Georgia ACS – ACS Coastal Georgia has a
meeting at 6:00 pm at Moon River. It will be “Trivia Night”.

C. Nov. 29; Dec. 1 & Dec 3 / Seminars – CHEM 4500, 4991 & 4960

D. Dec. 6 – Department graduation lunch at noon in room 1407.

E. Dec. 11/2010 – Graduation. The following students will be graduating:
   BA - Cierra Boyd
   BS-App. Phys – Kaye Arecher
   BS – Ryan Calton, Trevor Todd
   BS ACS – Boris Makhinson & Marie Priest
   All faculty is expected to attend graduation, including temporary faculty.
   If in need of regalia, it is available for rental through Academic Affairs.

F. Dr. Lynch spoke to John Stone recently and was informed that he made the short list on the University of Vermont for a tenure track faculty position. John was actually pre-interviewed by Alex Duncan’s research advisor.

G. Dr. Lea Padgett asked that purchase orders be turned in as soon as possible since we are approaching the end of the semester.

H. Ms. Carpenter announced that the Department of Career Services sets up Mock interviews for students. She added that this is a tool that students who may be anxious about their interviews for medical or pharmacy admissions into the respective schools can use. All they have to do is make an appointment and this would be set up for them.

I. Ms. Carpenter, also, encouraged the faculty to think about attending chemistry workshops when offered since she has attended some of them and has found them to be excellent. Additional travel money is available to attend these workshops.

B. Technology changes at AASU.
The BOR is requesting changes in the ADP system which they have found not to be cost effective.
The Novell and Ship systems will soon be replaced.
The implementation of Windows 7 will likely occur next summer.

Adjournment
The meeting was adjourned at 1:16pm. Next meeting will be held on January 26/2011.

cc: Dr. Anne Thompson, Interim Vice-President of Academic Affairs – Dean of Faculty
   Dr. Stephen Jodis, Interim Dean, College of Science and Technology
   Dr. Delana Nivens, Interim Assistant Dean, College of Science and Technology
ATTACHMENT #1

Physics --- Instrument / Technology Plan (Oct. 2010)

YEAR 2010-2011

GOAL: The Department will acquire and maintain technology and instrumentation that will meet the needs of the 21st century scientific community.

- Develop a capital campaign to meet the financial needs of the department in the areas of technology and instrumentation.
- Actively seek opportunities for external funding for new equipment and programs.
- Develop a plan of action for the periodic replacement of outdated/non-functional equipment and technology resources

Top Priority Instrumentation/Technology Required to Fulfill Educational Mission

1.) **Assure that general supplies are adequate for chemistry and physics courses.**
   a. Lab View Site License Annual Renewal – ($399 needed every year) (A license for $1999 for 1st year for 10 seats with annual renewal of $399 per year has now been secured. Renewal required in Fall 2010.) (Renewed Oct. 2010 at a cost of $419 – Shifted to Physics Technology Needs)
   b. Yearly supplies – replacement of broken items, consumables, microcontrollers – estimated to be $3,000.

2.) **Major Equipment Needs**

   A. **Physics (in order of priority)**
      a. **Motor Driven Centripetal Force Apparatus** - 8 Pasco ME8089, CI6690, & ME8955, 2 Pasco ME8951 & CI9498A, 8 power adapters (Providing 8 total units needed to perform rotational motion experiments in 1111 and 2211) - $4,500
      b. **High Vacuum Pump w/Gauge** (1 needed @ $800) (Needed to produce HV for alpha ray spectrometer, for cathode ray tube demonstration, for coin/feather demonstration)
      c. **Diffusion Cloud Chamber/Student Cloud Chamber Source** – (8 needed at $75 ea. = $600) (Needed to visually display the presence of radiation particles)
d. Alpha-Beta Needles Source Set – (4 needed at $140 ea. = $560) (Alpha & Beta Sources are needed to do radiation experiments with those sources)

e. Fiber Optics Speed of Light Apparatus – (5 needed @ $149 ea. from Electronix Express = $745) (Needed for PHYS 3801L to replace 1 that disappeared & to be able to measure a basic modern physics quantity)

f. High-Intensity Mercury Lamp/Power Supply & h/e Apparatus – (1 of each @ $1447) (Needed for measurement of h/e in photoelectric effect)

g. Alpha Ray Spectrometer Detector – (1 needed @ $1000) (Need to either replace detector or repair alpha ray spectrometer)

h. Multichannel Analyzer – (3 needed @ $4200ea. = $12,600) (Needed to replace antiquated RS232 ported units to USB ported systems for PHYS 3801 & PHYS 3802 and undergrad. Physics research)

i. Thermal Imaging Camera – FLIR T300 – ($9,000) - will provide students with access to modern instrumentation in courses such as introductory physics (1111/1112 and 2211/2212) as well as 3801, 3100, 4120.

j. Duplicating and Equipping SC 2404 for Mechanics & E-M with 8 mechanics & 8 E-M stations (16 stations @ approx. total cost of $135,000-$150,000* not including LCD Projector) (Needed to meet expected Engineering increases in enrollment and support current other enrollment in Introductory Physics) (This would have to come from a source other than normal dept. budget)

3.) Technology Needs

A. Physics

a. National Instruments USB-6009 data acquisition boards (10 needed @ $269 ea. = $2600) (Needed for PHYS 3120 PHYS 4120 to upgrade from RS-232 ported data acquisition systems and retire DOS-based systems)

b. Assorted Microcontrollers (50 needed @ avg. of $10 ea. = $500) (Needed to do undergraduate applied physics research)

c. Lab View Site License Annual Renewal – ($419 needed every year) (A license for $1999 for 1st year for 10 seats with annual renewal of $419 per year has now been secured. Renewal required in Fall 2010.) (Renewed before Oct. 25, 2010 at a cost of $419)
d. **Networked Printer for SC 2402** (1 needed @ $500)  
(Needed for printing to replace 6 antiquated printers with one networked printer-Carryover request from Year 3 2008-2009) Not purchased as of 10/14/10-Moved back to Physics Technology Needs

Purchased 2009-2010:

a. **8 Standard Spectrometers** (WLS1799-23) from Sargent-Welch @ $199.09 ea. (Needed to provide PHYS 1112 & 2212 labs with identical spectrometers and to shift precision spectrometers to the optics lab and older basic units to the physical science lab) **Purchased Spring 2010 – Dept. Money**

b. **8 Amadeus Digital Spectrometer Systems** (SE-7183) from PASCO @ $499.00 ea. **Purchased Spring 2010 – Dept. Money**

c. **Laser Pointers** – (16 needed @ $300) **Purchased Spring 2010 – Dept. Money**

d. **Laptop Computers for SC 2308** (8 @ $1000 each. = $8,000) (Needed to replace 8 aging/unreliable benchtop computers in 2308 to run physics experiments when mechanics experiments are occurring at the same time)

e. **Networked Printer for SC 2402** (1 needed @ $500)  
(Needed for printing to replace 6 antiquated printers with one networked printer-Carryover request from Year 3 2008-2009) Not purchased as of 10/14/10-Moved back to Physics Technology Needs
ATTACHMENT #2
Planning Committee Meeting Minutes

November 2\textsuperscript{nd}, 2010
Present: Brent Feske, Suzy Carpenter, Richard Wallace, Todd Hizer, and Cliff Padgett
Visitors: Josh Smith and Lea Padgett

**Agenda Item 1:** Please see updated equipment list document for the committee’s recommendation for prioritizing the equipment. The committee prioritized section 2 and made a new section (Section 3 - Lower priority items). A rationale was included where appropriate.

**Agenda Item 2:** The committee would like to talk to Will Lynch about the best way to organize this list. Would it be beneficial to list things under “Lab Fees” vs. “Departmental” budget items? Additionally do we need to include item 1 which includes general supplies? Perhaps having a mechanism in place to make sure that these things are ordered when needed would be better than relying on the committee to plan the purchase of these items.

**Agenda Item 3:** The committee has also asked the Josh Smith be included on our committee since he teaches the analytical/instrumental labs.

**Agenda Item 4:** The committee has removed the following piece of equipment from the list. If someone would like to place it back on the list please let the committee know with a rationale and updated quote.

a. **Magnetic susceptibility Balance ($4000)**
   Justification: We have one that has been broken for 3 years. If it cannot be fixed, it needs to be replaced for CHEM 3200 and 4200.
Year 2010-2011

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- Develop a plan of action for the periodic replacement of outdated/non-functional equipment and technology resources

Top Priority Instrumentation/Technology Required to Fulfill Educational Mission

4.) Assure that general supplies are adequate for chemistry courses.
   a. Need hot plates and stirrers--standing order to replace 10-20% per academic year (which equates to #10-20 per year at $250 each.
   b. Assure adequate number of Verneir hand-helds and probes, pH meters and Spec 20’s.
   c. Analytical Balance – Quant Lab - $2000 – Justification: It no longer works and needs to be replaced.

5.) Major Equipment Needs (ranked in order of priority. a = highest priority)
   A. Chemistry
      b. 2 Muffle Furnaces - (Fisher 10-550-58N) $2677. Increased need with CHEM 2300/3300 using in instrument room and CHEM 1211 using in general chemistry area. A second furnace would be valuable.
      Committee Rationale: This item is currently moved back and forth between labs when being used. We felt that a high demand item with such a moderate cost should be purchased for each laboratory – SC2101 and SC2108

      c. Cold Chromatography Cabinet: $4000 – 5000 (~$1000 from Feske RUI). Refrigerator for performing protein separations and other temperature sensitive experiments. Needed for CHEM 3803L and for any other experiments that need the low temperature along with electrical outlets.
      Committee Rationale: The committee felt that this item is a standard piece of biochemistry equipment and due to the low cost and matching funds that this should be a ranked accordingly. It was mentioned that every biochemistry
candidate interviewed last year mentioned their need for a cold cabinet and this has strengthened our need for this equipment as we look to hire a biochemist.

d. **60 MHz NMR Eft-GENII 60MHz Anasazi Instruments**
   Approximate cost is $90,000 minus current amounts collected of $20,000. Justification: The low-field instrument we currently have is more than 20 years old, unreliably produces good 1H NMR spectra and has limited capabilities beyond simple 1H spectra. Since the sophomore students taking the organic chemistry sequence (several hundred each year) run their own spectra week-by-week, there is a high demand for the low-field instrument. Having a second instrument would ease the current backlog. Secondly, the current instrument cannot run 13C and two-dimensional spectra. Both of these topics are found increasingly more often on the ACS Organic Chemistry Exam and in sophomore organic chemistry textbooks.
   **Committee Rationale:** The committee felt that an instrument that would affect such a large number of students each year should sit high on the priority list.

e. **AA spectrometer** $19,000 Current AA is the only instrument in our instrumental lab without computer control, and the buttons are beginning to wear. The instrument still functions well and we have a donated graphite furnace that may be operational soon. However, we must keep this instrument on the horizon since it is required for both CHEM 2300 or CHEM 3300.
   **Committee Rationale:** This instrument that is currently used is extremely old and is currently used in CHEM 2300 and CHEM 3300. Having it replaced would be beneficial.

f. **Diode Array** UV-VIS., $16,000 Workhorse instrument for all classes using the Instrument room. A new one should be on the horizon to replace the oldest of the 3 we have before it breaks. Kinetics is an increasing need.
   **Committee Rationale:** A strong rationale was not included for this instrument and since we have several operating UV-Vis instruments in the department it was difficult for the committee to place this at higher priority. There was some discussion that the UV-Vis in the Gen Chem lab could be moved because it is not being utilized. Additionally, Todd Hizer has been charged with the duty to investigate if new computers and software would fix the problem or if the genesis Spec 20’s would be sufficient for our need.
Other Lower priority items

B. Chemistry

a. **Capillary Electrophoresis**: the one we have is a boat anchor, requiring some sort of repair every semester. We should have this capability for our students and our faculty. We need something more reliable. (quote in the works…expected to be about $20-40,000).

b. **Graphite Furnace Attachment for the AA.** $23,000

c. **Multisystem Photoreactor - $7800**

6.) Technology Needs

A. Chemistry

a. Projection in SC 2001 & 2103. With implementation of general chemistry presentations this is a new and higher priority.

**Purchased 2009-2010:**

f. **GC/MS ($60,000)** Summer 2010 – EOY Money
   Justification: This is a workhorse instrument used in Chem 2101, 2102, 3200, 3300, 4100, 4200, 4300 and all research courses. Current instrumentation is ~10+ years old and often down due to repairs. No service is available because the manufacturer has discontinued it. We can do lease purchase through many companies.

g. **Fluorometer. ($25,000)** Spring 2010 – Dept. Money
   This is a workhorse instrument for CHEM 3401, 3402, Chem 3300 and Chem 3200. It is also highly utilized for CHEM 2900, 3900 and 4991. **Ordered**

h. **Muffle furnace Spring 2010 – Dept. Money** (Fisher 10-750-126N) $6,700. Current muffle furnace does not hold temperature over 600C. Needed for CHEM 2300, Chem 3300 and other classes as well as UR.

i. **12 PC laptops** – Summer 2010 EOY Money for CHEM 1211/1212.

j. **8 Standard Spectrometers** (WLS1799-23) from Sargent-Welch @ $199.09 ea. (Needed to provide PHYS 1112 & 2212 labs with identical spectrometers and to shift precision spectrometers to the optics lab and older basic units to the physical science lab) **Purchased Spring 2010 – Dept. Money**

k. **8 Amadeus Digital Spectrometer Systems** (SE-7183) from PASCO @ $499.00 ea. **Purchased Spring 2010 – Dept. Money**
l. Laser Pointers – (16 needed @ $300) Purchased Spring 2010 – Dept. Money

m. Computer: $700 Computer to be ordered to replace computer on HP-UV-VIS that died. Purchased Fall 2009– Dept. Money

n. Monitors: 2-3 replacement monitors for Instrumental lab

o. 20 hot plates in the 2010 budget-general inventory

p. Laptop Computers for SC 2308 (8 @ $1000 each. = $8,000) (Needed to replace 8 aging/unreliable benchtop computers in 2308 to run physics experiments when mechanics experiments are occurring at the same time)

q. Networked Printer for SC 2402 (1 needed @ $500) (Needed for printing to replace 6 antiquated printers with one networked printer-Carryover request from Year 3 2008-2009)

GOAL 2: The Department will recruit and retain students resulting in graduates who are competitive in the workplace, in graduate schools and in professional schools. (Components of these items will be part of the departmental planning sessions forthcoming)

- Develop programs that interest and excite students about science
  
  Part of overall departmental planning discussions
  The department should monitor the new BA with Biochemistry Concentration program (when approved) and the planning and curriculum committees should work together to determine the next step with this degree offering.

  The department should continue to monitor the effectiveness of studio physics in light of the needed expenditures and departmental goals.

  The Chemistry Department Faculty will be meeting to discuss implementing (or not implementing) changes to the upper division chemistry structure. Depending on this meeting, the planning committee should be involved in determining any equipment needs to facilitate changes.

GOAL 3: The Department will expand and strengthen its relationships with alumni, industry and the general public.
The Physics Curriculum Committee met in SC2402 at 2:15pm on Oct. 28, 2010. Present were Donna Mullenax, Jeff Secrest, Bill Baird, and Leon Jaynes (chair). The following occurred:

1. Requests for Catalog corrections:
   (1) Add the prerequisite of PHYS 2211K (minimum grade of C) and MATH 2072 Calculus II back to the Catalog description of PHYS 2212K PRINCIPLES OF PHYSICS I. (The part including Calculus II was supposed to be kept as a prerequisite when PHYS 2212/2212L was converted to PHYS 2212K. See UCC Minutes of Jan. 20, 2010. This was somehow omitted in the publishing of the 2010-2011 AASU Catalog.)
   (2) Correct typos in the prerequisite for PHYS 3312 ELECTROMAGNETISM. It should be Prerequisite: PHYS 2212K (minimum grade of C) and MATH 2083.
   Correcting these should only require a communication to the catalog editor.

2. Approved a new CURCAT for PHYS 4950 Special Topics in Physics to insure this course is repeatable for additional credit. The current information from the registrar indicates that it is not.

PHYS 4950 SPECIAL TOPICS IN PHYSICS  V-V-(1-3)
CURCAT:
Major Department: Chemistry and Physics
Can course be repeated for additional credit:  No Yes
Maximum Number of Credit Hours:  3
Grading Mode: Normal
Instruction Type: Lecture

Rationale: This course needs to be repeatable as needed for additional credit for a different topic to accommodate the study needs of students in different areas of physics. This need has arisen and required department head/registrar override to facilitate. This would avoid replacing the initial credit on the student’s record when additional credit is taken.

3. Approved removing ENGL 3720 from the Related Field Courses for the Program for the Degree B.S. in Applied Physics and replace the hours with Three hours of related field electives approved by the physics faculty

Rationale: ENGL 3720 Business and Technical Communication has become a course is not appropriate as a related field course for Applied Physics majors. It has been previously removed as a related field course for Chemistry majors and for Engineering majors. Applied Physics majors could still opt to take/count it as an upper division free elective course or as the three hours of related field free elective.
4. A. Approved the creation of the following physics courses:

**PHYS 3801K MODERN PHYSICS** (2-3-3)
Prerequisite: PHYS 2212K (minimum grade of C) or both MATH 1161 and PHYS 1112K (minimum grade of C)

Modern physics, relativity, atomic physics, and nuclear physics. Includes laboratory investigation.

**CURCAT:**
Major Department: Chemistry and Physics
Can course be repeated for additional credit: No
Maximum Number of Credit Hours: 3
Grading Mode: Normal
Instruction Type: Lecture-Lab

**PHYS 3700K OPTICS** (2-3-3)
Prerequisite: PHYS 2212K (minimum grade of C) or both MATH 1161 and PHYS 1112K (minimum grade of C)

Geometrical and physical optics. Includes laboratory investigation.

**CURCAT:**
Major Department: Chemistry and Physics
Can course be repeated for additional credit: No
Maximum Number of Credit Hours: 3
Grading Mode: Normal
Instruction Type: Lecture-Lab

B. Approved the deletion of PHYS 3801/3801L.

Rationale: Most physics programs have separate modern physics and optics courses. The proposed format combines the lab and the lecture using the “studio format” that is currently in place for PHYS 1111K, PHYS 1112K, PHYS 2211K, and PHYS 2212K. This format maximizes the use of lab and lecture time. It is being utilized at many universities and has been shown to be a better environment to learn physics than the traditional separate lab/lecture formats.

5. Approve a new course:

**PHYS 1000 PHYSICS FRESHMAN SEMINAR** (1-0-1)
Corequisite: MATH 1161

Introduction to and development of problem solving skills, exposure to current research topics in physics, and improvement of writing and presentation skills.

Rationale: This course will benefit all students preparing for an applied physics major. The purpose of this course is to develop and reinforce problem solving skills that will be needed in later courses, engage students in current topics in physics, and strengthen a student’s writing and presentation skills.

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CURCAT:

Major Department: Chemistry and Physics

Can course be repeated for additional credit: No

Maximum Number of Credit Hours: 1

Grading Mode: Normal

Instruction Type: Lecture

6. Modify the Applied Physics Program by deleting PHYS 3801/3801L – Optics and Modern Physics and Lab and replace with PHYS 3801K – Optics as a choice course in the group “Nine semester hours from:” both in the “Major Field Courses”. Also, delete PHYS 3801/3801L – Optics and Modern Physics and Lab from the “Related Field Courses” and replace with Three semester hours of related field electives approved by the physics faculty. And, delete the parenthetical (one hour applies to area F) for CSCI 1301 – Introduction to Programming Principles or ENGR 1371 – Computing for Engineers as laid out: This would allow the PHYS 1000 Physics Seminar to go to Area F or to the Free Elective spot as an option for the student and would allow the total hours for the Related Field Courses to be the correct total of its listed courses.

B. Major Field Courses ………………………………………………………….30hours
PHYS 3100 – Electric Circuit Analysis
PHYS 3120 – Digital Electronics
PHYS 3210 – Intermediate Mechanics or PHYS 4170 – Advanced Mechanics
PHYS 3300 – Thermodynamics or PHYS 3400 Chemical Thermodynamics
PHYS 3801/3801L – Optics and Modern Physics and Lab
PHYS 3801K – Modern Physics
PHYS 3802 – Introduction to Quantum Mechanics
PHYS 4120 – Scientific Measurement with Digital Interfacing
Nine semester hours from:
PHYS 2900 – Introduction to Research in Physics
PHYS 3220 – Mechanics of Deformable Bodies
PHYS 3230 – Fluid Mechanics
PHYS 3312 - Electromagnetism
PHYS 3500 – Diffraction and Crystallography  
**PHYS 3700K – Optics**  
PHYS 4900 – Independent Study in Physics  
PHYS 4950 – Special Topics in Physics  
PHYS 4960 – Physics Internship  
PHYS 4991 – Advanced Research in Physics

C. Related Field Courses .................................................................23 hours  
CHEM 1211 – Principles of Chemistry I (and lab)  
CHEM 1212 – Principles of Chemistry II (and lab)  
CSCI 1301 – Introduction to Programming Principles or ENGR 1371 – Computing for Engineers  
(one hour applies to area F)  
**ENGL 3720 – Business and Technical Communication**  
Three semester hours of related field electives approved by the physics faculty  
MATH 2160 – Linear Algebra  
MATH 3411 – Differential Equations  
A three semester-hour upper-division math course (3000 or 4000 level, excluding MATH 3400),  
approved by the physics faculty

7. Discussion of the need for a course in Math Physics Methods at 2000 or 3000 level  
was begun. This is an item for future discussion.

8. Physics tracks update was given.

9. Physics Brochure update was given.

10. Physics Equipment/Technology/Supplies Lists were reviewed and changes/additions  
were requested by Bill Baird ASAP in order to get final lists with priority rankings to Dr. Lynch  
   a. The highest priority equipment need was established to be upgrading the F<sub>C</sub>,  
      Centripetal  
      Force to 8 Identical Units with the PASCO Options at approximately $4500 total  
      cost.  
   b. Recommend securing a department Data Studio Site License at a one time cost  
      of $458  
      as a high priority.  
   c. Physics Supplies--This should be increased to $3000 per year (Get your needs  
      to Bill Baird ASAP)  
      (The lists and priorities have now been finalized and have been submitted to Dr. Lynch.)

Respectfully Submitted,  
Leon Jaynes, Chairman
ATTACHMENT #4
Department of Chemistry and Physics
Meeting of the Assessment Committee
11/16/2010

Present: Cliff Padgett (presiding), Bill Baird, Cathy MacGowan
The meeting was called to order at 1:00 pm.

2. The summer Toledo exam data was looked at and compiled with the previously collected data. The committee decided to ask the general chemistry faculty to help with the fall data by providing an Excel sheet with the student name, Toledo scores, and final grade.

3. ACS exam database for student tracking was discussed and Dr. Baird agreed to help create an MS access database. Dr. Padgett has been collecting data from most classes that use the ACS exam and will visit faculty members to collect the missing data, most notably data from organic chemistry. The goal is to track chemistry majors from start to finish. It was decided that instructor and non-majors information would not be included in this database.

4. The committee looked at physical chemistry I data collected over the last 3 years and noticed that:
   a. Students were more likely to pass physical chemistry I if they had more than one semester of calculus (62% pass if only had calculus I, 81% pass if had more than calculus II).
   b. Students were more likely to pass physical chemistry if they received a C or better in calculus I. (25% pass if only have a D in calculus I, 71% pass if had a C or better in calculus I). Note there is only a small number of students who got a D in calculus and take physical chemistry I).

The committee decided to have Dr. Lynch to call a faculty meeting on the math requirement in physical chemistry and the BS / BA degrees. The committee is also looking at other universities to see what other schools do.

5. The committee discussed what tracking should be applied to our physics majors beyond the PHYS 1111 / 1112 and PHYS 2211/2212 series.

The meeting was adjourned at or near 1:45PM.
**ATTACHMENT #5**

List of active Courses taught recently

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Term</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>*GEOL 6100</td>
<td>HISTORICAL GEOLOGY</td>
<td>200902</td>
<td>3</td>
</tr>
<tr>
<td>METR 6100</td>
<td>METEOROLOGY</td>
<td>200902</td>
<td>3</td>
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<tr>
<td>OCEA 6100</td>
<td>OCEANOGRAPHY</td>
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<td>PHSC 7150</td>
<td>PLANET EARTH</td>
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<td>3</td>
</tr>
<tr>
<td>*PHSC 7640</td>
<td>PHYS SCIENCE/MID-HIGH SCH TCHR</td>
<td>200902</td>
<td>1</td>
</tr>
<tr>
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<tr>
<td>PHYS 7940</td>
<td>PHYSICS MIDDLE GRADES TEACHERS</td>
<td>200902</td>
<td>1</td>
</tr>
</tbody>
</table>
MEMORANDUM

TO:        Vice Presidents and Deans
FROM:      David Carson, Vice President for Business and Finance
DATE:      November 10, 2010
CONCERNING: Student Fee Proposals

At AASU, students are charged two types of fees, mandatory and non-mandatory. Mandatory fees are charged to all on-campus students and include tuition, technology fee, student center fee, student access I. D. fee, health fee, athletic fee, activity fee, special institutional fee, and recreation fee. Students taking off-campus courses exclusively pay tuition, the special institutional fee and technology fees only. Non-mandatory fees are charged to students only involved in certain aspects of enrollment. Examples of these fees include laboratory fees, application fees, graduation fees, parking decals, etc.

Each December, we must submit a list of both types of student fees to the Board of Regents for approval. In order to increase current mandatory fees or to introduce a new mandatory fee, a detailed justification must be submitted. For non-mandatory fees, only the rate is required; justification is not needed. For any laboratory fee, please send me a list of the particular class for which a fee is charged. For example, a biology lab fee of $35.00 should be charged to Biology 1101, 1102, and 1103.

If you would like to increase any student fees or introduce a new fee starting Fall 2011, please forward those requests to me, including justification for mandatory fees. I need this by December 1, 2010. Also, if you would, please forward this to your department heads and directors.

Attached is a listing of Armstrong’s fees along with comparable fees of university system schools.

Thank you for your assistance.

DLC/bs

Attachment

FEES in USG – Per D. Carson Memo

CHEM (Gatech, $35,50, GSU, $35,50, ASU, $15, CSU, $50, GCSU $50, KSU, $35, SSU, $30, UWG, $35)

PHYS (GSU, $25, CSU, $50, GCSU, $50, KSU, $35, SSU, $30, UWG, $45)