PALM BEACH STATE COLLEGE

PHYSICS CLUSTER MINUTES
Tuesday, October 29, 2013 1:00-4:00 PM
Lake Worth Campus Room NS 105

ITEM 1: Chairperson and Scribe

Professor Trupin opened the meeting and indicated that the cluster needs to select the Chair and Scribe for the next school year beginning in the Fall term of 2014. Professor Trupin volunteered to remain as the Chair and Professor Stemle volunteered to remain as the Scribe. As there were no other nominations or volunteers both were approved for the positions through the next school year, 2014-2015.

ITEM 2: Textbooks

Professor Trupin asked that all members send Professor Stemle any textbook changes or new editions (via email) in the next two weeks to be included in the textbook database.

Action:

The GLY 1000 course textbook "Earth: An Introduction to Physical Geology" remained the same but changed from the 10^{th} edition to the 11^{th} edition.

THE AST 1002 course textbook "A Beginners Guide to the Universe" remained the same but changed from the 6^{th} edition to the 7^{th} edition.

THE PHY 1001 course textbook was changed to "Physics Principles with Applications, 7^{th} edition, by Giancoli, per Item #4 below.

ITEM 3: Consider using conceptual questions as part of course learning outcomes

Nominations: Motion #1 – Professor Jordan made a motion to increase the number of questions for the Course Learning Objectives assessment in the Physics courses to ten (10).

Motion #2 – Professor Jordan made a motion to revise the current Course Learning Objectives in the Physics course to include conceptual understanding and critical thinking of the specific concepts.

Seconds: Motion #1 – Professor Trupin seconded motion #1
Motion #2 – Professor Trupin seconded motion #2

Vote: Motion #1 – Passed with a vote of eight (8) for and two (2) against.
Motion #2 – Passed with a vote of six (6) for; two (2) against and two (2) abstain.

Discussion/Results:

-Professor Jordan requested that conceptual questions be added to the course learning outcomes assessments in Physics courses.

-Professor Trupin indicated that he believes that conceptual questions do increase understanding but that establishing new Course Learning Objectives would require approval from the Curriculum Committee.

-Professor Jordan indicated that she is willing to modify the Course Learning Objectives (CLOs) for the curriculum committee review and approval if needed and to expand the number of assessment questions to 10. She believes this would give a better indication of how well the student learned the established CLOs.

-Professor Sundquist stated that he didn't think new questions were needed at this time.

-Professor Trupin suggested that Professor Jordan develop the additional questions to be used for the assessment of CLOs in the Physics courses and to send them around to the group via email for review.

-Professor O'Brien stated that the development of course assessments is a work in progress.

-Professor Jordan wants to change the CLOs to include conceptual understanding of Physics principals and incorporate critical thinking.

-Professor Fleisher emphasized that students must be able to perform calculations in order to truly understand basic concepts and that he felt it necessary for students to be able to do the calculations as well.

-Professor Andric stated that understanding concepts is most important.

ITEM 4: Consider a new textbook for PHY1001

Nominations: Professor Trupin made a motion to change the textbook used in PHY 1001 to "Physics Principals with Applications" Giancoli, 7th edition Pearson Publishers, ISBN-13:878-0321625922.

Seconds: Professor Fleisher seconded the motion

Vote: The motion passed with a unanimous vote

Discussion/Results:

-Professor Trupin stated that the Giancoli textbook was superior to the currently approved textbook because it better explains concepts and meshes well with Web Assign.

-Professor Jordan stated that she was concerned by the level of math required in the proposed textbook.

-Professor Trupin indicated that there is a prerequisite of College Algebra for this course and that the mathematics used in the book is algebra based.

OTHER.

ITEM 5: Common Reader

- Professor O'Brien stated that he would like for the Physics cluster to suggest a common reader book to the overall campus next year. His recommendation was "A Brief History of Everything" by Bill Bryson.

- Professor Stemle agreed and recommended another book entitled "Physics of the Future" by Michio Kaku.

ITEM 6: New Electives, Electrical Power Technology Program

During the meeting, Professor Andric stated that he will be proposing curriculum changes to the Electrical Power Technology Program that will include two new courses entitled Biofuels and Biomass and Electrical Distribution Substations. He indicated that he will send the proposed changes to the Physics cluster via email for consideration.

Follow-up/Results: On November 20, 2013 Professor Andric sent his proposed curriculum changes to all cluster members via email and requested a vote in support of the changes. A copy of his proposal is included within this document below.

Vote: The proposed curriculum changes were approved by the cluster by a vote of seven (7) for; zero (0) against and three (3) abstain.

ATTENDANCE: Oleg Andric, Waweise Schmidt, Richard Fleischer, Lilian Jordan, Marie Grasso, Jerry O'Brien, Andy Trupin, Jeff Sundquist, William Miner and Steve Stemle

Submitted by:

Steven Stemle

[name], Scribe

c. Minutes Distribution List

Electrical Power Technology Program Curriculum Changes Proposal 2013/2014 Academic Year

- Current EPT program curriculum: http://www.palmbeachstate.edu/areasofstudy/programsheet/index.asp?id=200

- Proposed changes (brief description):

    - Conversion of three lecture courses to combined lab-lecture courses: ETP1530 Introduction to Wind Energy, ETP1511 Introduction to Biofuels, and EET2930 Special Topics in Electrical Engineering
    - Addition of two new electives: ETP1510C Biofuels and Biomass and ETP1137C Electrical Distributions Substations

- Detailed Description and Justification:

1. Conversion of three lecture courses to combined lab-lecture courses: ETP1530 Introduction to Wind Energy, ETP1511 Introduction to Biofuels, and EET2930 Special Topics in Electrical Engineering
    1. Conversion of ETP1530 Introduction to Wind Energy to a combined lab-lecture course ETP1530C:

        - Reasoning: obtained new lab equipment which offers opportunities for hands-on training in wind physics, induction generators, transformers, and power generation in lab setting. We are already performing some lab activities (wind data collection in field, etc...), and new equipment allows us to significantly enhance our lab activities and hands-on training in lab setting. Additionally, many of our students work for FPL/NextEra Energy Wind Production Control Room as well as additional wind energy companies and this additional training would be beneficial to our students.

    2. Conversion of ETP1511 Introduction to Biofuels to a combined lab-lecture course ETP1511C:

        - Reasoning: completion of new biofuels lab with biodiesel production equipment offers opportunities for hands-on training in biodiesel production. Additional lab activities include biodiesel quality testing. New equipment will allow us to significantly enhance our lab activities and hands-on training.

    3. Conversion of EET2930 Special Topics in Electrical Engineering to a combined lab-lecture course EET2930C:

        - Reasoning: Special Topics in Electrical Engineering is used in EPT curriculum for Program Learning Outcome assessment, which mostly include lab performance. So, it is already primarily lab course. In addition, it is also used for students to design, assemble, test, and present their graduation projects. Thus, this change would just acknowledge the reality of this course being primarily lab course.

2. Addition of two new electives: ETP1510C Biofuels and Biomass and ETP1137C Electrical Distributions Substations:
    1. Addition of new elective: ETP1510C Biofuels and Biomass:

        - Reasoning: Already existing in EPT curriculum is ETP1511 Introduction to Biofuels ("Biofuels I"). After covering biofuels in general and its chemistry, and completing biodiesel production lab – all done in existing ETP1511 ("Biofuels I"), we continue with distillation and ethanol processing theory and lab. Newly established biofuels lab has capability of processing both biodiesels and ethanol through distillation process. Combined sequence (ETP1511C and ETP1510C) would provide extensive training in biofuels.

    2. Addition of new elective: ETP1137C Electrical Distributions Substations

        - Reasoning: With continued student success in job placement in distribution technology companies in area, it was determined that we need to increase specific training in this area. We have obtained new lab equipment for Smart Grid, Distribution, and customer side of power system business. This new course would focus on Distribution and Substation, with emphasis on modern technologies to manage those (Smart Grid). This would further strengthen job skills of our students.

Submitted via email to the Physics cluster by Professor Oleg Andric 11-20-13.

TEXTBOOK ADOPTIONS for the Academic Year – 2013-2014

Descriptive Astronomy

Course Title and Number: Descriptive Astronomy – AST 1002
Current Textbook: Astronomy: A Beginner's Guide to the Universe by Chaisson & McMillan, 7th Edition, ISBN-10 0321815351 / ISBN-13 978-0-321-815354
Publisher: Addison-Wesley **Copyright**: September 2012
First Semester for Current Edition: Fall 2012
Last Semester for Current Edition: Unknown

Textbook used by Professor Lilian R. Jordan only
Course Title and Number: Descriptive Astronomy – AST 1002
Current Textbook: Discovering the Essential Universe by Commins, 3th Edition, ISBN 071674595X
Publisher: W. H. Freeman **Copyright**:
First Semester for Current Edition: Fall 2005
Last Semester for Current Edition: Unknown

This supplement may be required by Professor Lilian R. Jordan
Course Title and Number: Descriptive Astronomy – AST 1002
Supplement: Lecture-Tutorials for Introductory Astronomy by Prather, Slater, Adams, and Brissenden, 2nd Edition, ISBN 9780132392266
Publisher: Addison-Wesley **Copyright:**
First Semester for Current Edition: Fall 2008
Last Semester for Current Edition: Unknown

Planetary Astronomy

Class discontinued by Physics Cluster 3/24/09
Course Title and Number: Planetary Astronomy – AST 1003
Current Textbook: Astronomy Today by Chaisson & MacMillan, 7th Edition, ISBN 9780132400855
Publisher: Addison-Wesley
Copyright:
First Semester for Current Edition: Fall 2006
Last Semester for Current Edition: Unknown

Stellar and Galactic Astronomy

Class discontinued by Physics Cluster 3/24/09
Course Title and Number: Stellar and Galactic Astronomy – AST 1004
Current Textbook: Astronomy Today by Chaisson & MacMillan, 7th Edition, ISBN 9780132400855
Publisher: Addison-Wesley
Copyright:
First Semester for Current Edition: Fall 2006
Last Semester for Current Edition: Unknown

Earth Science

Course Title and Number: Earth Science – ESC 1000
Current Textbook: Earth Science by Tarbuck, Lutgens, and Tasa, 13th Edition, ISBN-10 (soft cover version): 0321622995 / ISBN-10 (hard cover version): 0321688503 / ISBN-13 (hard cover version): 9780321688507
Publisher: Pearson/Prentice Hall **Copyright**: 2012
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Unknown

Study Guide (Study Guide available but not required)

Course Title and Number: Earth Science – ESC 1000
Study Guide: Study Guide by Hatfield and Pinzke, 13th Edition, ISBN-10: 0321714857 / ISBN-13: 9780321714857
Publisher: Pearson/Prentice Hall **Copyright**: 2012
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Summer 2014

Textbook required in Professor Jeffrey J. Sundquist's face-to-face class; optional for other sections.

Course Title and Number: Earth Science – ESC 1000
Current Textbook: Applications and Investigations in Earth Science by Tarbuck, 2nd custom edition for Palm Beach State College, ISBN-10: 1256067032/ISBN-13:9781256067030
Publisher: Pearson/Prentice Hall **Copyright**: 2012
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Summer 2014

Descriptive Geology

Course Title and Number: Descriptive Geology – GLY 1000
Current Textbook: Earth: An Introduction to Physical Geology by Tarbuck, 11th Edition, ISBN 13: 9780321814067
Publisher: Pearson/Prentice Hall **Copyright**: January 2103
First Semester for Current Edition: Fall 2013
Last Semester for Current Edition: Unknown

Introduction to Oceanography

Course Title and Number: Introduction to Oceanography – OCE 1001
Current Textbook: Invitation to Oceanography by Paul R. Pinet, 6th Edition, ISBN 13: 9781449648022
Publisher: Jones and Bartlett Learning
Copyright: 2013
First Semester for Current Edition: Fall 2012
Last Semester for Current Edition: Unknown

Applied Physics

Course Title and Number: Applied Physics – PHY 1001
Current Textbook: Applied Physics by Ewen, Schurter, & Gundersen, 9th Edition, ISBN 0135157331
Publisher: Pearson/Prentice Hall **Copyright**: 2009
First Semester for Current Edition: Spring 2009
Last Semester for Current Edition: Spring 2014
TO BE REVISED – SPRING 2014
Textbook: Physics Principals with Applications, by Douglas Giancoli, 7th edition, ISBN 10:0321625927; ISBN 13:878-0321625922
Publisher: Pearson
First Semester: SPRING 2014
Last semester: Not known

General Physics with Calculus I

Course Title and Number: General Physics with Calculus I – PHY 2048
Current Textbook: Physics for Scientist and Engineers by Serway & Jewett, 7th Edition, ISBN 0495747173 (customized version of the 7th edition for PBSC – Palm Beach State College)
Publisher: Cengage Learning **Copyright**: 2008
First Semester for Current Edition: Fall 2008
Last Semester for Current Edition: Unknown

General Physics I and General Physics with Calculus I Laboratory

Course Title and Number: General Physics I and General Physics with Calculus I Laboratory – PHY 2048L
Current Laboratory Manual: Physics Laboratory Experiments by Wilson, 6th Edition, ISBN 0618382593, ISBN 0618564276 (customized edition used at the Boca Raton campus)
Publisher: Houghton-Mifflin **Copyright**: 2005
First Semester for Current Edition: Fall 2006
Last Semester for Current Edition: Summer 2010

Notes: *Professor Richard S. Fleisher at the Lake Worth campus uses his own handouts. Other Professors at the Lake Worth campus use the manual below.*

Course Title and Number: General Physics I with General Physics with Calculus I Laboratory– PHY 2048L
Current Textbook: PHY 2048L Lab Manual, *Second Edition*, by Carlos F. Ramos, ISBN 978-0-7575-8864-8
Publisher: Kendall Hunt
Copyright: 2009
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Unknown

General Physics with Calculus II

Course Title and Number: General Physics with Calculus II – PHY 2049
Current Textbook: Physics for Scientist and Engineers by Serway & Jewett, 7th Edition, ISBN 0495747173 (customized version of the 7th edition for PBSC – Palm Beach State College)
Publisher: Cengage Learning **Copyright**: 2008
First semester for Current Edition: Fall 2008
First semester for Current Edition: Unknown

General Physics II and General Physics with Calculus II Laboratory

Course Title and Number: General Physics II and General Physics with Calculus II Laboratory – PHY 2049L
Current Laboratory Manual: Physics Laboratory Experiments by Wilson, 6th Edition, ISBN 0618382593, ISBN 0618564276 (customized edition used at the Boca Raton campus)
Publisher: Houghton-Mifflin **Copyright**: 2005
First Semester for Current Edition: Fall 2006
Last Semester for Current Edition: Summer 2010

Note: Professors at the Lake Worth campus use the manual below.

Course Title and Number: General Physics II with General Physics with Calculus II Laboratory – PHY 2049L
Current Textbook: PHY 2049L Lab Manual, *Second Edition*, by Carlos Ramos, ISBN 978-0-7575-8857-0
Publisher: Kendall Hunt
Copyright: 2009, 2011
First Semester for Current Edition: Fall 2011
Last Semester for Current Edition: Unknown

General Physics I

Course Title and Number: General Physics I – PHY 2053
Current Textbook: Physics by Cutnell & Johnson, Volume One, 8th Edition, ISBN 9781118306321 (customized version of the 8th edition for PBSC – Palm Beach State College)
Publisher: John Wiley & Sons. Inc. **Copyright**: 2012
First Semester for Current Edition: Fall 2012
Final Semester for Current Edition: Unknown

General Physics II

Course Title and Number: General Physics II – PHY 2054
Current Textbook: Physics by Cutnell & Johnson, Volume Two, 8th Edition, ISBN 9780470379257 (paperback)
Publisher: John Wiley & Sons. Inc. **Copyright**: 2009
First Semester for Current Edition: Fall 2009
Final Semester for Current Edition: Summer 2012

Physical Science for Today's World

Course Title and Number: Physical Science for Today's World – PSC 1341
Current Textbook: Conceptual Physics by Hewitt, 11th Edition, ISBN 13: 978-0-321-56809-0
Publisher: Paul Hewitt/Addison Wesley **Copyright**:
First Semester for Current Edition: Fall 2010
Last Semester for Current Edition: Unknown
Workbook: Practicing Physics
ISBN: 13:978-0-0321-66256-9