Alliance For Physics Excellence (APEX)
Winter Weekend Workshop – Cohort 3
Physics Teacher Institute (PTI) Activity Schedule
Alabama A & M University

October 28-29, 2016 – Electrical Fields and Potential

Day 1 – Friday, October 28, 2016

8:00 to 8:15 AM	❑ **Welcome/Greetings/Announcements**	**Mohan Aggarwal, AA&M Univ. and APEX Leadership**
8:15 to 10:00 AM	❑ **Activity #1: *Mapping a Gravitational Field* Page 3** ❑ **Four Squares of Gravitational Quantities Page 81** ❑ **Related Problems 1, 2, 3, 6, & 7 Page 6**	**Review: *Weight versus Mass*** **Jim & Jane Nelson, AAPT/PTRA** **(1 3/4 hour)**
10:00 AM to Noon	❑ **Activity #2: *Mapping an Electrical Field* Page 15** ❑ **Related Problems 1, 2, 3, 6, & 7 Page 19**	**Jim & Jane Nelson, AAPT/PTRA** **(2 hours) – Review: *Cathy Coulomb***
Noon to 1:00 PM	❑ **In House Working Lunch: (Marius Schamschula 3/4 hour – *Learning Content Management Systems*)**	
1:00 to 2:45 PM	❑ **Activity #3: *How Can We Visualize Electrical Fields?* Page 31**	**Jim & Jane Nelson, AAPT/PTRA** **(1 3/4 hour)**
2:45 to 4:15 PM	❑ **Activity #4: *Visualizing an Electrical Field … A Simulation* Page 49**	**Jim & Jane Nelson, AAPT/PTRA** **(1 1/2 hour)**
4:15 to 4:45 PM	❑ **Start Activity #6: *How Does The Electrical Potential Energy Vary With Distance?* Page 61**	**Jim & Jane Nelson, AAPT/PTRA** **(1/2 hour)**
4:45 to 6:45 PM	❑ **1. Personal APEX Goal(s)** ❑ **2. Report on Specific Change(s) Implemented** ❑ **3. Sharing your APEX Experiences with Peers** ❑ **4. Assessment**	**Dennis Sunal, Tara Ray, and Justina Ogodo** **(2 hours)**

- **Day 1 (Total = 10 1/4 hours)**
- **APEX Implementation = 2 hours**
- **Pedagogy & Planning = 0 hour**
- **PTRA Content = 7 1/2 hours**
- **Technology = 3/4 hour**

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Day 2 – Saturday, October 29, 2016

8:00 to 9:00 AM	❑ **Students' Thinking and Responsive Teaching, Part I**	**Jim Minstrell** **Facet Innovations (1 hour)**
9:00 to 10:00 AM	❑ **Students' Thinking and Responsive Teaching, Part II**	**Jim Minstrell** **Facet Innovations (1 hour)**
10:00 to 11:00 AM	❑ **Students' Thinking and Responsive Teaching, Part III**	**Jim Minstrell** **Facet Innovations (1 hour)**
11:00 AM to Noon	❑ **Continue with Activity #6: *How Does The Electrical Potential Energy Vary With Distance?* Page 61** ❑ **Four Squares of Electrical Quantities Page 82**	**Jim & Jane Nelson, AAPT/PTRA (1 hour)**
Noon to 1:00 PM	❑ **In house Working Lunch: (Do Problem 2a, Activity #5 on Page 58 and Problem 3a, Activity #8 on Page 80)**	
1:00 to 2:00 PM	❑ **Whiteboard Problems: Even Tables do Problem 2a, Activity #5 on Page 58 and Odd Tables do Problem 3a, Activity #8 on Page 80**	**Jim & Jane Nelson, AAPT/PTRA (1 hour)**
2:00 -2:15 PM	❑ **Workshop Evaluation (HRI Survey) /Closing Remarks**	**Mohan Aggarwal, AA&M Univ. and APEX Leadership**

- **Day 1 (Total = 10 1/4 hours)**
- **APEX Implementation = 2 hours**
- **Pedagogy & Planning = 0 hour**
- **PTRA & Engineering Content = 7 1/2 hours**
- **Technology = 3/4 hour**

- **Day 2 (Total = 5 hours)**
- **APEX Implementation = 0 hours**
- **Pedagogy & Planning = 3 hours**
- **PTRA Content = 2 hours**
- **Technology = 0 hour**

- **Total for week-end = 15 1/4 hours**
- **APEX Implementation = 2 hours**
- **Pedagogy & Planning = 3 hours**

- **PTRA Content = 9 1/2 hours**
- **Technology = 3/4 hours**