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## 2014 Faculty Learning Community

## Evidence Based Improvements for STEM Student Success

**Syllabus**

## FLC Facilitators

Co-Facilitator: Judi Kusnick, Professor Department of Geology

Co-Facilitator: Lynn M. Tashiro, Director for the Center for Teaching and Learning

## FLC Focus

This FLC integrates professional development activities on early intervention and student engagement with the scholarship of teaching and learning by using “Lesson Study” and “Action Research” to test and evaluate the implementation of research based best practices. In the first half of the FLC, faculty will engage as learners in contemporary teaching tools such as student response systems (cards, clickers, poll everywhere), flipped classroom learning (video or audio cast lectures), collaborative learning (problem based, team based, peer led), and learner analytics (for early intervention). Each meeting will model best practice implementation, facilitate faculty practice with the tool, and provide a forum for discussion. Faculty will select one of the tools to implement in a lesson the following semester. The implementation will be evaluated using peer observation based on the “Lesson Study” model of professional development and the assessment of student learning will be examined using “Action Research”.

**FLC Outcomes:**

1. Faculty will know how to create an activity/lesson that implements the tools demonstrated in this FLC

2. Faculty will be able to use backward design to create a pilot activity/lesson that implements one of the pedagogical tools demonstrated.

3. Faculty will be able to use Lesson Study and/or Action Research to evaluate the impact of their pilot activity/lesson.

**FLC Deliverables:**

1. A sample activity for each of the best practice STEM pedagogy tools demonstrated in the FLC

2. Pilot Lesson utilizing one of the above tools

3. Action Research Plan

4. PowerPoint summarizing the Action Research Project and its results

**FLC Meetings:**

Select Mondays from 12-2pm.

Spring 2014 dates listed below

Fall 2014 dates TBD.

**FLC Tentative Calendar Year 2013:**

|  |  |  |  |
| --- | --- | --- | --- |
| Meeting | Date \* | Topic and Tools | Homework /Activity/Deliverable Due |
| 1 | Feb 24 | • Introduction to FLC• Backwards Design and Blooms Taxonomy• Intro to Action Research and Lesson Study | • practice backward design and apply Blooms Taxonomy• Introduction to Action Research and Lesson StudyHW – Watch the Wiley Flipped Class Video |
| 2 | Mar 17 | The “Flipped” classroom• Using technology to “flip” a lesson• Student engagement – online and face to face | • discussion of Wiley video viewed for HW• Components of a flipped lesson• Active engagement of students during face to face class meetings• working time for designing a flipped lesson**Del. #1a due: A flipped lesson plan** |
| 3 | Apr 7 | Formative Assessment• Muddiest Point, Quick Writes• Student Response Systems (clickers)• student polling (ABCD cards, Poll Everywhere) | • Practice with formative assessment tools • Working time**Del. #1b due: Creating a formative assessment tool and implementation plan** |
| 4 | Apr 28 | Collaborative Learning • Problem, Team. and Peer Learning• Wiley Learning Video on PBL (STEM) | • Experience, Practice and Discussion with/on Collaborative Learning**Del. #1c due: Plan for Collaborative learning activity**  |
| 5 | May 19 | Early warning/Advising • LMS Learner Analytics• Student Study ContractsSelection of Pilot Lesson and STEM learning tool to implement | • Introduction to LMS Learner Analytics and • Examples of Study contracts• Early Intervention Program: PASS Advising• Work time to draft action research plan and pilot lesson**Del. #2a due: Draft Pilot Lesson plan** |
| 6 | Sept.  | Pilot Lesson and Action Research Plan• Evidence of learning• Data collection plan• Human subjects - IRB | • Examine Pilot Lesson using Backward Design and Blooms Taxonomy• Working time on Pilot Lesson and Action Research Plan |
| 7 | Sept. | • Troubleshoot Pilot Lessons and Action Research Plans• Finalize Pilot Lesson Plan | • Peer Consultations and Working time• Creation of pairs or teams for Lesson Study**Del. #2b due: Final Pilot Lesson plan** |
| 8 | Oct. | • Lesson Study• Peer observation  | • Practice Observation & debriefing protocols**Del. #3 due: Mini Action Research Plan** |
| 9 | Nov. | • Formative Assessment of Mini Action Research Projects | • Faculty Teams report out on observations and data collection |
| 10 | Dec. | • Culminating Event• Stipend Awarded upon completion | • Project presentations **Del. #4 due: Project Summary** |