**ENGR 3002 (CRN 26509)/BIOSC 3002 (CRN 26572)/CHEM 3002 (CRN 26521)**
**Advancing Learning Through Evidence-Based STEM Teaching**

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|---|---|
| **Days/Time** | Thursdays 4:30 – 5:20 |
| **Credits** | 1 credit |
| **Location** | Benedum Hall, room 318 |
| **Facilitator Contact Information** | • Dr. Mary Besterfield-Sacre, Associate Dean of Academic Affairs, SSOE<br>1040 Benedum Hall; (412) 624-9836; mbsacre@ pitt.edu<br>• Dr. Sam Donovan, Lecturer, Biological Sciences<br>A358 Langley Bridge; (412) 624-4825; sdonovan@pitt.edu<br>• Dr. Zsuzsa Horvath, Assistant Professor and Director of Faculty Development, Dental Medicine,<br>380A Salk Hall; zshst2@pitt.edu<br>• Dr. Joseph Grabowski, Associate Professor, Chemistry<br>705 Chevron; (412) 624-8632; joeg@pitt.edu<br>• Dr. Julie Briski, Pitt-CIRTL coordinator<br>B12 Benedum Hall; (412) 383-6014; jmb312@pitt.edu<br>• Dr. April Dukes, Pitt-CIRTL coordinator<br>B12 Benedum Hall; (412) 383-6014; aprila.pitt@gmail.com |
| **Course Description:** | This course is designed for graduate students and postdocs preparing for academic careers in the STEM disciplines and interested in learning how to apply research principles to their disciplinary teaching. The primary focus of this course is to provide an introduction to **"teaching-as-research" (TAR)** - defined as "the deliberate, systematic, and reflective use of research methods to develop and implement teaching practices that advance the learning experiences and outcomes of both students and teachers." The course will utilize material presented in a Massive Open Online Course (MOOC) available through EdX.org and sponsored by the Center for the Integration of Research, Teaching and Learning (CIRTL). Participants will learn about effective teaching strategies and the research that supports them in addition to learning how to collect, analyze, and act upon their own evidence of student teaching. |
| **Textbook & Readings** | • Videos and course materials will be made available on CourseWeb.<br>• YouTube channel for course videos:<br>https://www.youtube.com/playlist?list=PLJgGu0ZOByF8nptqWtNW_25KnxSf5vnzb |
| **Course Objectives** | • Gain knowledge and awareness of the Scholarship of Teaching and Learning (SoTL), Discipline-based Education Research (DBER), and "Teaching-as-Research" (TAR) practices in the STEM classroom<br>• Design a TAR project for implementation |
| **Participation:** | This course is pass/fail. Attendance and participation in discussions is highly encouraged. |
| **Assignments** | • Participate in class discussions and activities<br>• Create a plan for a teaching-as-research project to be peer reviewed by fellow classmates |

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**Spring 2018 Course Schedule**
**Thursdays 4:30 – 5:20pm**

| Date | Title | | Speakers |
|---|---|---|---|
| Jan 11 | Welcome | • Syllabus<br>• What will you get out of this course?<br>• Pitt-CIRTL Practitioner level requirements | Mary Besterfield-Sacre |
| Jan 18 | Introduction | • What is the Scholarship of Teaching and Learning (SoTL)?<br>• What is Discipline-Based Education Research (DBER)?<br>• Where does Teaching-As-Research (TAR) fit in? | Sam Donovan |
| Jan 25 | What is a TAR Project? | • Key elements of a TAR project – how to get started<br>• TAR project "speed dating"<br>• Videos from MOOC 2: 3 videos (~19 min total) | April Dukes |
| Feb 1 | Workshop: Accessing the Education Literature | • Education journals<br>• Mapping journal article to TAR-on-a-page | Julie Briski |
| Feb 8 | Workshop: TAR Project Brainstorming | • TAR-on-a-page<br>• Videos from MOOC 2: 3 videos (~16 min total) | Julie Briski |
| Feb 15 | Flipped Classroom | • The advantages of flipping your class<br>• Holding your students accountable<br>• Videos from MOOC 2: 3 videos (~18 min total)<br>• - FAQs – 5 videos (optional) | David Nero<br>(Physics faculty) |
| Feb 22 | Learning Through Diversity | | April Dukes |
| Mar 1 | Funding Opportunities | • ACIE (primarily)<br>• NSF<br>• dB-SERC | Zsuzsa Horvath |
| *Mar 8* | *NO CLASS* | | |
| Mar 15 | Inquiry-Based Labs | • Videos from MOOC 2: 4 videos (~30 min total)<br>• Link to additional videos – MOOC 2, week 4, pt 2 | Jean Schmidt (Biology)<br>Kitty Liu (Chemistry) |
| Mar 22 | Workshop: TAR Project Development | • Videos from MOOC 2: 5 videos (~18 min total)<br>• | Joe Grabowski |
| Mar 29 | Human Subjects Research Requirements | HRPO (formerly IRB) | Zsuzsa Horvath |
| Apr 5 | Problem-Based Learning & POGIL | • Videos from MOOC 2: 4 videos (~25 min total) | Sean Garrett Roe<br>(Chemistry) |
| Apr 12 | TAR Project Peer Review | • Bring 5 copies of your TAR project proposal outline | All |
| Apr 19 | TAR Project Presentations | • TAR Projects Draft Due | Sam Donovan |
| *TBD* | *TBD CIRTL Certification Ceremony* | • | |