

# Call for Papers

*Special Issue of Advances in Engineering Education*

## Flipped Classrooms in STEM fields

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### Overview

Flipped classrooms invert the order of the traditional teaching cycle, in which first exposure to the content occurs in the classroom and assimilation of content occurs outside the classroom (homework). Instead, the flipped classroom has students consuming content at home, often through video lectures and digital content, and assimilating in the classroom through problem-solving, practice, microlectures, peer-to-peer interaction, etc.

For this special issue of *Advances in Engineering Education*, we seek papers exploring the effectiveness of the flipped classroom in STEM courses using parameters such as student performance, course experience, institutionalizing of findings, and long-term retention. Papers should be based on sound pedagogy and accepted statistical analysis. We also welcome state-of-the-art review papers on use of technology in flipped classrooms and meta-study analysis papers.

As a first step, we invite you to submit an **Extended Abstract** of a proposed paper to be considered for publication AEE. As an online, peer-reviewed journal, AEE encourages the creative use of multimedia in presenting results; these might include videos, audio, links to examples of student work, etc.

## Manuscript Proposals:

Authors are asked to submit a two-page proposal (maximum 1,000 words not including references) to AEE on: <http://mc.manuscriptcentral.com/advances>

Please also submit a cover page to provide author information including author names, affiliations, contact information and indicate that your extended abstract is to be reviewed for the *"Flipped Classrooms in STEM Fields"* Special Issue.

Specifically, abstracts should include a short background, motivation for the work, as well as indicate why this work is an advance in engineering education. Further, abstracts should provide an overview of the work completed and a summary of the results. Papers should highlight an innovative program, course, or strategy for teaching with flipped classrooms in the context of engineering and science curricula and should be accompanied by compelling evidence of the educational outcomes and impacts.

All proposals/papers will go through the AEE peer-review process. See the appropriate paper type for instructions for abstracts.

## Proposal and Paper Evaluation

Manuscript proposals will be reviewed by the Guest Editors and a panel of STEM education researchers. Successful abstracts will be invited to submit a full paper. Full papers will be peer reviewed following the Journal's standard peer-review process.

## Important deadlines

Extended abstracts (1000 words)	October 15, 2014
Notification of requests to submit full manuscript	November 1, 2014
Submission of manuscripts	December 15, 2014
Reviewers' feedback/Notification of manuscript acceptance	January 31, 2015
Submit final manuscripts	March 31, 2015
Publication	June 1, 2015

## **About AEE**

The mission of Advances of Engineering Education is to disseminate significant, proven innovations in engineering education practice, especially those that are best presented through the creative use of multimedia. AEE seeks to define a new means to disseminate documented innovations in engineering education practice through the creative use of multimedia. A peer-reviewed journal, AEE will be permanently archived online. Authors are strongly encouraged but are not required to utilize such supporting material as animation, audio, graphics and video in addition to text in order to best demonstrate their educational achievements. The journal includes descriptions of innovative curricula, courses, and teaching practices both within and outside the classroom that are clearly built upon a foundation of accepted learning science principles. Completed and documented studies are published as full articles; work in progress that shows distinct promise of eventual success may be published as educational briefs. By focusing on educational developments and practice, Advances in Engineering Education complements the Journal of Engineering Education.