How to Implement an Experimental Course on Analog IC design in a Standard Semester Schedule - DTU Orbit (17/12/2018)

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One of the challenges in teaching integrated analog electronics is that it is difficult to offer courses where the students can design, layout and tape-out a circuit and subsequently perform measurements on the device due to the long turn-around time in IC fabrication. In this paper it is described how the sequences of courses in integrated analog electronics at the Technical University of Denmark have been modified to enable this. It is outlined how a course can be designed using the three elements in constructive alignment: intended learning objectives, teaching activities and assessment. As an example it is described in detail how a new course is designed. The course is the first of two new courses and the scope of the course is to teach the students the flow an IC designer has to go through when designing analog circuits. Additionally the course has a large focus on strengthening the generic engineering competences of the students. This is achieved by running the course as a project in a company with status meetings and a review meeting where the teacher acts as a manager. Finally, the course evaluation based on the Course Evaluation Questionnaire (CEQ) is presented and based on this future improvements to the course are discussed.

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