

CE 890 Graduate Seminar

SPEAKER: Charles Strauss, P.E. (Dr. Esmaily's Distance Learning Grad. Student)

TOPIC: "Where Steel Meets Concrete – A Look at Anchor Design"

DATE: November 4, 2009

TIME: 4:00 p.m. (refreshments at 3:45 p.m.)

PLACE: 2144 Fiedler Hall

ABSTRACT

As structural engineers, we design a structure with steel beams and columns, transferring vertical and lateral loads down to the column bases. To transfer forces to the ground we design the foundations for our structures, commonly using spread footings made of cast-in-place concrete. But how does the steel structure transfer loads to the concrete footing? How do we anchor the buildings that we design to the ground?

Every structural engineer will need to understand how to design cast-in-place anchor rods and post-installed anchors shortly after entering the industry. This presentation will go through the design approach for designing anchors as outlined by ACI 318 Appendix D. This presentation will give guidance on the different failure modes that a structural engineer will need to be aware of and some ways to increase the strength of the design where it is needed. The goal of this presentation is to provide the structural engineering students with a workable knowledge of anchors so that when they get into the workforce they will have an understanding of anchor design and where to go to look for resources.