“Undergraduate Teaching Assistants (UGTAs) serve as tremendous assets within many of our engineering classrooms. Their ability to help us integrate, test, and refine entrepreneurial mindset learning outcomes is vital. To do so effectively, we must first ensure that the UGTAs feel confident discussing the components of EM themselves.”

- Alicia Baumann, UGTA Faculty Advisor

**Case at a glance**

**Integration goals:** Integrate EM into the courses that new and returning UGTAs (and ASU 101 Section Leaders) are required to complete

**Materials affected:** Syllabus, projects, orientation video

**Lessons learned:** This integration effort revealed the need for the new role of entrepreneurial catalysts.

**Context**

The Undergraduate Teaching Assistant (UGTA) and ASU 101 Section Leader program selects successful undergraduate students to serve as teaching assistants in a variety of classes offered by the Ira A. Fulton Schools of Engineering (FSE). We aim to place a UGTA or Section Leader in every section of ASU 101, FSE 100, and EGR 101 to assist
faculty members with exploratory and collaborative learning activities. UGTAs and Section Leaders act as a cultural bridge from high school to the university environment, help freshmen to navigate the institution, promote self-confidence and self-reliance, act as role models who demonstrate personal and academic success, and may hold office hours and review sessions.

**Responsibilities**

- Spend about five hours per week assisting a faculty member in the classroom or lab
- Meet with the faculty member on a regular basis to prepare for activities
- Enroll in and complete FSE 201: Engineering Undergraduate Teaching Assistant (1 unit) the semester you serve as a UGTA and, if you serve as a UGTA a second time, enroll in and complete FSE 394: Transfer Success in Engineering (or FSE 394: Academic Success and Professional Development), which is designed to maximize the UGTA/Section Leader experience, and so too that of the students they serve

**Benefits**

- Improve communication and leadership skills
- Develop a working relationship with a faculty member and students in your program
- Earn valuable experience for your resume
- Get recognized at an appreciation dinner with the Schools’ leadership
- Earn course credit on your transcript
- Receive a $1,000 stipend at the end of the semester (UGTAs)
- Receive a $500 stipend per section (max of two sections for $1,000) at the end of the semester (ASU 101 Section Leaders)

**Qualifications**

- Be at the sophomore, junior, or senior academic level
- Be in good academic standing with no Academic Integrity Policy violations
- Have completed the course with a grade of “B” or higher (UGTAs)

More information can be found on the UGTA website, where students also apply for both jobs.

**Integration details**

Integration efforts involved developing the initial training workshop for UGTAs, as well as developing and implementing EM-focused materials and activities in the two UGTA training courses, which are now sequenced to progress from EM theory to EM practice, with FSE 394 requiring some form of application of EM.
2016-2017

- Developed and implemented an EM module for the new UGTA course (FSE 201)
- Planned initial training for UGTAs, planning delivery at the beginning of spring semester for approximately 360 UGTAs

2017-2018

- Produced contextualizing videos featuring Dr. Brent Sebold:
  - EM @ ASU Overview for the introductory UGTA course
  - Advancing EM @ ASU for the returning UGTA course

NOTE: Supporting resources for this case study can be found within its companion KEEN card (link below), which is also where the community can discuss the case and its broader topic.

Integration outcomes

We did successfully develop and implement EM modules, including contextualizing videos, for both UGTA courses, but we did not actually run a live workshop that included EM content due to staff changes and time constraints. That is, during 2016-2017, EM was not addressed beyond being mentioned as something that would be forthcoming and likely involve an assignment.

Overall, this integration effort requires both further attention and ongoing evaluation. Our primary insight during 2017-2018 was that, for most of the UGTAs, adding EM instruction and coaching duties to the roles’ core course subject matter and student support responsibilities was not sustainable. As a result, we created the role of Entrepreneurial Catalyst, which is also staffed by undergraduate students but, as the name suggests, focuses exclusively on promoting EM across FSE.

Nonetheless, it must be said that, even without a live training workshop that included a fully developed section on EM, and instead having to rely upon the EM modules in their UGTA courses, some of the UGTAs rose to the challenge of incorporating EM into their work with students. Kudos to them!

Future plans

While evaluating the results of integrating EM into the UGTA courses, we found that our UGTAs were learning about the entrepreneurial mindset but having trouble actually applying it to their responsibilities of mentoring, as the 3C’s are most applicable to solution design and development. A new approach is set to be implemented starting in academic year 2018-2019, one in which the entire UGTA experience will revolve around the 3C’s and KEEN Cards.

The new curriculum will foster ways students can
• explore their own curiosities in the classroom,
• make meaningful connections not only to faculty and class members but to other approaches to integrating EM and teaching innovations that are relevant to areas of the course, and
• showcase how UGTAs enhance the entire student experience by creating value outside of directly supporting faculty activities.

In sum, our UGTAs will be introduced to the entrepreneurial mindset through our “EM 101” videos and then work to explore and incorporate different KEEN cards into their classrooms so that the entrepreneurial mindset will be not just learned but applied as a teaching tool.

**Considerations**

As we did not fully implement our plans for this integration effort, it stands out as an example of how what is a very high priority area can, at least in part, get lost amid the myriad goals and inherent complexities of a large EM integration initiative.

**KEEN Card**

This case study has a companion card on the KEEN Engineering Unleashed [website](#).

**Related Cases**

**Curriculum**
Foundations 1: EGR 101 and FSE 100
Foundations 2: EGR 102

**Engagement**
Starting Strong: E2 Camp
Extraordinary Customer Service: Entrepreneurial Catalysts

**Workshops**
Onboarding 1: EM Workshop for Faculty
Onboarding 2: EM Workshop for Staff

**Life Cycle**
Dotting I’s and Crossing T’s: Administering the Initiative
Institutional Learning: Evaluating the Initiative