An Evaluation of the Implementation and Use of College-Level Standards in Undergraduate Research in a College of Agricultural and Life Sciences

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June 2016
Undergraduate research

- Provide an immersive opportunity to learn new skills and knowledge in a multi-faceted environment\(^1,2\)
- Results in an ↑ understanding of research process and clarified interests in STEM careers\(^2\)
- ↑ Satisfaction undergraduate education and greater enrichment of cognitive and personal skills\(^3\)
- Retention in scientific field\(^4\)
Examined assessment methods
  - Used to evaluate undergrad students who participated in research activities for course credit (fall 2013)

Assessment Methods - course credit
  - 87% did not receive a syllabus
  - Those who did (13%) indicated final grade determined by attendance and participation

Results suggest course credits for undergraduate research are not being clearly assessed for knowledge and/or skill gains
“Research is much more intense and time-consuming than the credits signify. Based on the amount of work and stress that I had to put in, the 2 credits were very small.”

“I enjoy working in my lab. This semester I will be completing my 10th credit hour for undergrad research.”

“Research was very independent and self-driven.”
Major Findings

- Implementation of department/college standards
  - Offering undergraduates the opportunity to participate in research activities for course credit?

- Future research should focus on:
  - Evaluating appropriate methods for assessment of these outcomes
  - Measuring skills and/or knowledge gains
Implemented Fall 2014
- Followed the college and university curricular process

Introduction of a 0-credit research option at UF and CALS
- UF desire to more closely track the research being carried out by undergraduate students
- Many students volunteer to obtain research experience

Goals:
- Establish common expectations across research experiences
- Guidance for faculty leading supervised research experiences

Suggested grading schema:
- 70% - degree to which student meets expectations
- 15% - quality of final report
- 15% - attendance
The aim of this study was to evaluate the implementation of a 0-credit research course with a standardized syllabus and assessed as satisfactory/unsatisfactory (S/U), in the College of Agricultural and Life Sciences (CALS), University of Florida.
In spring 2015, identified students (n=203) were contacted
- 49 (24%) (35F,10M) completed a survey through Qualtrics®

Faculty from CALS (n=30), who supervised undergraduate research for credit, also completed an online survey
Students reported being familiar with the 0-credit option (78%)

Few students received a syllabus; however, they met with their research advisor or were informed of the expectations (91%)

Most faculty (75%) did not distribute a syllabus and some were unaware that a template syllabus existed (38%)
  - Those who did, used the CALS template (67%)
I am more likely to participate in undergraduate research with the option to register for 0 credits.

Having a research experience and/or supervised research appear on my transcript is important to me.

Independent research credit should be evaluated as Satisfactory or Unsatisfactory (S/U) compared to being graded (receiving a letter grade, i.e. A, A-, B+, etc.).
I am more likely to supervise undergraduate students for research credit with the 0 credit option.

Undergraduate students registered for independent research credit should be evaluated as Satisfactory or Unsatisfactory (S/U) compared to being graded.

Undergraduate students are more accountable when they are registered for independent research credit versus volunteering.

Providing students with a syllabus is more likely to cause me to meet with students to discuss my expectations and course grading policies.

I will use a version of the CALS ALS 4911 syllabus in future semesters.
Conclusions

- Awareness of 0-credit option and syllabus template
  - Identify faculty barriers in using the template

- Additional steps needed to ensure the template is made available to students registered for research in CALS
Findings are not surprising, given the long history of independent student research at UF.

Need for further communication about the:
- Existence of the research syllabus templates
- Value of following suggested guidelines to ensure a more uniform research experience

