

2017-18 Department Student Success Plan Update

[Center for Science Education]

Please complete this plan update and submit to your Dean by November 3. Your Dean will offer you feedback by November 17 and advance final version¹ to Academic Affairs by November 21. Previous report and plans can be found at this website: <http://irt2.indstate.edu/cms7/sp16/index.cfm/departments-plans/>.

Person Primarily Responsible for Preparing this Report: Elsun Seung

1. Department goals to facilitate persistence to degree (include action steps, dates, and person(s) responsible underneath each goal):

Goal1. Freshmen (1st year) Retention: Remain a high rate: 80-100% for 2017-18 Target

- Write letters to accepted freshmen to briefly introduce our Science Education program
 - Target date for completion: August 15, 2018, Elsun Seung
- Meet with freshmen after they receive interim grades to check on their academic status, and introduce the Science Education curriculum and teacher licensing processes
 - Target date for completion: October 15, 2018, Elsun Seung
- Invite freshmen to Science Education open house
 - : We offer an open house and invite all Sciences and Science Education majors every semester
 - Target date for completion: February 15, 2018; September 30, 2018, Elsun Seung
- Invite freshmen to Science Education seminars
 - : We provide Science Education seminars every semester. The main purpose of these seminars is to provide our Science Education majors with useful information regarding required science and education courses, campus life, and science teaching careers. Science Education majors can also connect with local science teachers and other majors through these seminars.
 - Target date for completion: April 15, 2018; November 15, 2018, Elsun Seung & Steve Moore
- Provide consulting sessions for education courses
 - : During the semester, when freshmen request consulting sessions for education courses, pair them with a senior level student to provide these sessions, Elsun Seung
- Promote continued interest in both science education and related career fields by encouraging freshmen participation in local community and university events, Elsun Seung

Goal2. Four Year Graduation Rate: Increase to 40.00% for 2017-18 Target

- Revise Math requirements for Middle School Science Concentration
 - If students take Math 112 and Math 115, MATH 131 should be waived since these two courses cover enough math skills for middle school science teaching.
 - Target date for completion: April 15, 2018, Elsun Seung
- Request the Biology Department to offer a B.A. degree for Biology teaching majors. This degree can increase our majors' four year graduation rate.
 - Target date for completion: February 15, 2018
- Invite Science Education majors to a biannual open house
 - Target date for completion: February 15, 2018; September 30, 2018, Elsun Seung
- Provide Science Education seminars for majors
 - Target date for completion: April 15, 2018; November 15, 2018, Elsun Seung & Steve Moore
- Encourage Science Education majors to join the science education student organization. By participating in various activities run by the student organization, Science Education majors can connect with peers and increase their motivation to teach science
 - Possible activities to be run by the student organization;
 - Provide a science night event for local K-12 students (March, 2018)
 - Provide a science afternoon event for local Boys and Girls club (April, 2018)

¹ Dean will request a refinement to plan if it is not suitably addressing the questions. Plan will be shared with Trustees.

- Persons responsible: Elsun Seung & Steve Moore
- Encourage and support Science Education majors to participate in the SURE program
 - Target date for completion: April 1, 2018, Elsun Seung
- Do an explicit degree audit every semester
 - Target date: Advising meeting, Elsun Seung
- Encourage Science Education majors to attend the science teacher conference : HASTI (**Hoosier Association of Science Teachers, Inc**) conference, IN
 - Target date for completion: February 28, 2018, Elsun Seung & Steve Moore
- Conduct exit survey near the end of the semester prior to students' graduation to determine graduating seniors' impression of program and career plans
 - Target date: May 15, 2018, Elsun Seung & Steve Moore
- Update a spreadsheet of graduating seniors, whether teacher licensure was conferred, and place of employment
 - Target date: September 15, 2018, Elsun Seung

Goal3. Continue a high Course completion ratio and low DFDr rate:

→ **Course completion ratio: 98.00% and DFDr rate: 0.00-5.00% for 2017-18 Target**

- Encourage Science Education majors to use the Help Center for tutoring in their science courses
 - Target date: Advising meeting, Elsun Seung
- Provide advising for majors who's midterm grades are lower than C-
 - Target date for completion: After receiving interim grades every semester, Elsun Seung

Goal4. Increase enrollment: Increase the number of majors to 30 for 2017-18 Target

- Visit freshmen science courses (CHEM 105/106 or PHYS 105/106) to provide information and recruit majors, April 15, 2018, Elsun Seung & Steve Moore
- Email all Science Majors to encourage them to add our program as their second major
 - Target date: October 15, 2018, Elsun Seung
- Work with Admissions to provide specific information about Science Education when visiting high schools for recruitment talks, April 15, 2018, Elsun Seung & Steve Moore

2. Department goals to enhance student performance and/or learning outcome achievement² (include action steps, dates, and person(s) responsible for each goal):

Goal1. Improve understanding of the method of inquiry

- Learning outcome: Teacher candidates of science should understand the processes, tenets, and assumptions of multiple methods of inquiry leading to scientific knowledge.
- Develop inquiry-based lesson plans and unit plans
- Spring 2018 (SCED 396L); Fall 2018 (SCED 398L), Elsun Seung

Goal2. Engage professional growth

- Learning outcome: Teacher candidates of science strive to continuously grow and change, personally and professionally, to meet the diverse needs of their students, school, community, and profession.
- Prepare teaching portfolio over three semesters, Spring 2018 (SCED 396L, SCED 402), Fall 2018 (SCED 398L), Elsun Seung

Goal3. Improve problem solving ability

- Learning outcome: Teacher candidates of science engage their students in the successful analysis of problems, including considerations of risks, costs, and benefits of alternative solutions.
- Participate in a Problem Based Learning project, SCED 398L, Elsun Seung

² Department/Program Student Learning Summary Form report may inform what is noted here.

Goal4. Relate science to the community

- Learning outcome: Teacher candidates of science relate their discipline to their local and regional communities, involving stakeholders and using the individual, institutional, and natural resources of the community in their teaching.
- Participate in community engagement activities
 - Provide a science night event for local K-12 students (March, 2018)
 - Provide a science afternoon event for local Boys and Girls club (April, 2018)
- Persons responsible: Elsun Seung & Steve Moore

Goal5. Increase awareness of safety and welfare

- Learning outcome: Teacher candidates of science organize safe and effective learning environments that promote the success of students and the welfare of all living things.
- Develop a safety module, Fall 2018 (SCED 398L), Elsun Seung
Obtain a Flinn Scientific Co. safety certificate, Spring 2018 (SCED 402), Elsun Seung

Benchmark Metrics

Metric	2016-17 FTFT-BDS Cohort Actual	2017-18 Target	3 Year Target (2019-20)
Freshmen Retention ³ (by <u>latest</u> department)	100.00%	80.00-100.00%	80.00-100.00%
4-Year Grad Rate (by <u>latest</u> department)	33.33% (Cohort total 3 in Fall 2013)	40.00%	45.00%
	Source data for 2016-17 actual	2017-18 Target	3 Year Target (2019-20)
Number of Enrollment	27 in Fall 2017	30	33
Course completion ratio	Lower division 97.87% Upper division 97.46%	98.00%	98.50%
DFDr rates	Fall 2016 5.00% Spring 2017 0.00%	0.00-5.00 %	0.00-5.00 %

³ In a very few cases, such as with departments with very small numbers of majors or who have few or no new freshmen who enroll in their program, this metric and a grad rate may not be applicable. Other appropriate metrics should be used instead (e.g., service course student performance, transfer students, part-time students, etc.).