

Composite Science BS - Assessment
Plan Summary

Composite Science BS

Goal 1: Proficiency of Graduates

Goal Description:

Prepare students seeking Composite Science certification to become successful 7th-12th grade science teachers based upon their knowledge of both science and pedagogy.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

G1O1: Content Proficiency

Learning Objective Description:

Students in the Composite Science program will be proficient in the content areas of the degree pertaining to astronomy, biology, chemistry, geology/earth science, and physics.

RELATED ITEM LEVEL 2

G1O1I1: Representative Exam

Indicator Description:

Students will take the Representative Exam available on the ETS website to assess their proficiency in both the Common Core component of the Composite Science degree and the advanced content in each discipline. This exam will be used to prepare students to take the TExES exam. The Representative exam will be taken the semester before the Methods Block.

Criterion Description:

80% of students taking the Representative exam will earn a score of 80% or higher (i.e., a minimum of 240 points).

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 2

G1O1I2: TExES Exam

Indicator Description:

Students will take the TExES exam.

Criterion Description:

80% of students taking the TExES exam will pass on their first attempt with a score of 80% or higher (minimum of 240 points). Those who do not pass on their first attempt will pass it on their second attempt. Students will take the TExES exam during their Methods Block. *Although students do not have to pass the test before doing their Student Teaching Block, they must pass the exam to receive certification. In addition, from the standpoint of program accountability, students must pass the test by their second attempt, though they can take it as many as five times.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 2

G1O1I3: Science Methods Assignment

Indicator Description:

G1O1I3: Students will complete a content-related assignment in the Science Methods course and it will be included in their Student Portfolio.

Criterion Description:

Students will score 80% or higher on this assignment.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017**Action Description:**

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G102: Proficiency in Critical Thinking and Scientific Reasoning**Learning Objective Description:**

Students in the Composite Science program will demonstrate proficiency in critical thinking and scientific reasoning.

RELATED ITEM LEVEL 2

G102I1 CAT Assessment**Indicator Description:**

*Students will take the Critical Thinking Assessment Test (CAT) developed by Tennessee Tech University, and a locally developed FSE exam, as part of their Foundations of Science course (BIOL 1436). The test will be taken again in the Science Methods course near the end of the course. *Students who are pursuing science teaching certification in a particular discipline (i.e., not Composite Science) will take the CAT exam in the Science Methods course only, as they are not required to take the Foundations of Science course. Their scores will be compared to those scores earned by those who took the Foundations of Science course.*

Criterion Description:

Students will show improvement between the pre-test and post-test taken in the Foundations of Science course; and, they will maintain or improve their score (relative to the post-test in the Foundations of Science course) in the Science Methods course.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017**Action Description:**

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 2

G102I2: Science Methods CT Assignments**Indicator Description:**

G102I2: Students will complete designated assignments which address critical thinking and scientific reasoning. These assignments are:

a) NSTA research assignment, or similar assignment (completed in the Science Methods course)

b) Texas Gateway online Safety Certification exam (completed in the Science Methods course)

Criterion Description:

Crit. 1. 80% of students who complete the research assignment will score 80% or higher.

Crit. 2. All students will pass the safety certification exam

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017**Action Description:**

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G103: CAEP and TExES proficiency**Learning Objective Description:**

Students in the Composite Science program will demonstrate pedagogical proficiency as defined by CAEP and TExES standards.

RELATED ITEM LEVEL 2

G103I1: CAEP and TExES**Indicator Description:**

Assessments from appropriate coursework pertaining to teacher certification requirements in the College of Education will be used to assess pedagogical proficiency. These assessments include:

a) Unit Plans

b) Focused Content Observations ((FCOs)

c) Student Portfolios

Criterion Description:

- a) 80% of the Unit Plans must be rated as satisfactory or better by the evaluator
- b) 80% of the FCOs must be rated as satisfactory by the evaluator. *Both College of Education and College of Science and Engineering Technology faculty members may participate in the FCOs.
- c) 80% of the Student Portfolios must be rated as satisfactory by the evaluators.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G104: Pedagogical Techniques

Learning Objective Description:

Students in the Composite Science program will demonstrate proficiency in pedagogical techniques used in science courses.

RELATED ITEM LEVEL 2

G104I1: Pedagogy

Indicator Description:

Scores on designated assignments in the Science Methods course will be used to assess students’ proficiency pertaining to pedagogical approaches used to teach science.

Criterion Description:

80% of students who complete the required assignments will earn a score of 80% or higher.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G104I1: Pedagogy

Learning Objective Description:

Scores on designated assignments in the Science Methods course will be used to assess students’ proficiency pertaining to pedagogical approaches used to teach science.

Goal 2: Mentoring and Support

Goal Description:

Provide appropriate mentoring and advising support for students seeking Composite Science Certification.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

G201: Tracking System

Learning Objective Description:

The Composite Science program administrator (the Associate Dean in the College of Science and Engineering Technology) and advisors for the Composite Science program will establish a system for tracking students in the program for purposes of ensuring that the students are taking the required assessments at the required time.

RELATED ITEM LEVEL 2

G201I1: TK20 Database tracking system

Indicator Description:

A Composite Science database will be maintained as part of the TK-20 system which will include the names of all students in the Composite Science program, their year in their program, a list of all assessments required of the students, their scores on these assessments, and notes pertaining to meetings with the students by their program advisors. (The latter will be entered into Degree Works.) The administrator and all program advisors will have access to this database and will convey the relevant data to the TK-20 database administrator.

The following student information will be entered:

- a) Name
- b) Age
- c) Ethnicity
- d) SHSU GPAs in major and minor, and cumulative GPA
- e) Date of admission to the SED program
- f) Content area of emphasis (Biology, Chemistry, Earth Science, Physics)

The following are the assessment scores that will be entered:

- a) Three Cat scores (taken in the FOS course as a pre-and post-test and in the Science methods course)
- b) Two FSE scores (taken during the FOS course)
- c) NSTA research assignment, or similar assignment (completed in the Science Methods course)
- d) Texas Gateway online Safety Certification exam (completed in the Science Methods course)
- e) Science teaching pedagogy assignments (completed in the Science Methods course)
- f) Representative exam score/s (taken prior to the Methods Block; i.e., normally during the same semester as the Science Methods course is taken)
- g) TExES exam score/s (taken during the Methods Block)
- h) Unit Plans (completed during the Methods Block and Teaching Block)
- i) Focused Content Observations (made during the Teaching Block)
- j) Student Portfolios (submitted during the Teaching Block)

Criterion Description:

The revised TK-20 database will be completed by the fall semester 2017 and will be maintained thereafter. Student information will be added upon receipt of Declaration of Major information. Meetings among advisors will be held as needed to determine whether modifications are needed to the TK-20 database.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G202: Student Support and Mentoring

Learning Objective Description:

The Composite Science program administrator and advisors for the Composite Science program will use the TK-20 database to track the academic progress of the students for purposes of identifying students who may be struggling and for providing appropriate advising and mentoring.

RELATED ITEM LEVEL 2

G202I1: Student Support and Mentoring

Indicator Description:

Using the TK-20 database, those students who appear to be struggling with their coursework will be contacted by either the Composite Science program administrator or the advisor/s for the discipline-specific area in which the student is struggling. Scores on the Representative Exam and TExES exam will be sent to the Program Advisor and the faculty advisors by the Teacher Education Certification Officer. In addition, the database will be checked by the Composite Science administrator at the end of each semester, and the program administrator and/or the relevant advisor/s will contact the student to set up a meeting between them. Notes will be entered into the Degree Works database following the meetings.

Criterion Description:

Students will be contacted if their Representative and/or TExES exam scores are less than 80% and mentoring will be required in such cases.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G2O3: Mentoring for TExES

Learning Objective Description:

The Composite Science program administrator and advisors for the Composite Science program will develop a mentoring program for students preparing to take and/or retake the representative and TExES exams. These materials may consist of those provided by the NSTA, and TEA , as well as locally-developed materials and web-based materials.

RELATED ITEM LEVEL 2

G2O3I1: Mentoring for TExES

Indicator Description:

Based on performance of less than 80% on the TExES exam, designated mentors from the departments of Biology, Chemistry, Geography/Geology, and Physics will serve in this advising and mentoring capacity.

Criterion Description:

G2O3I1: At least one member from the Departments of Biology, Chemistry, Geography/Geology, and Physics, as well as a representative from the College of Education and the Composite Science program administrator will serve as advisors and mentors. This team will be named the *Composite Science Advising and Mentoring Team* (CSAMT). In addition to this set of mentors, additional tutoring may be provided by graduate assistants and teaching assistants.

G2O3I2: Members of the CSAMT team will develop, either individually or jointly, a set of review materials related to their areas of expertise. These materials can be in the form of notes, Power Point presentations, and questions, and may also include links to materials available online.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

Goal 3: Retention

Goal Description:

Maintain a high level of retention in the program.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

G3O1: Advisor Suport

Learning Objective Description:

Use the Composite Science advising and mentoring program to encourage students to continue in the program by providing support for all students in the program, and especially those who may be struggling.

RELATED ITEM LEVEL 2

G3O1I1: Progress Reminders

Indicator Description:

Students will be sent encouraging, periodic reminders of the support that is available to them as they progress through the program.

Criterion Description:

G3O1I1C1: All students in the database will receive these e-mails.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G3O2: Camaraderie

Learning Objective Description:

Create a sense of camaraderie among students in the program to provide mutual friendship and support.

RELATED ITEM LEVEL 2

G3O2I1: Cohorts

Indicator Description:

To the extent possible, students will enroll in courses as a cohort which will consist of both Composite Science majors and other SED minors.

Criterion Description:

G3O2I1C1: Approximately half of the students in the Composite Science program will be in a cohort that takes one or more classes together each semester.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 2

G3O2I2: Science Education Organization

Indicator Description:

A Science Education student organization will be developed. Activities will include field trips, meetings, watching science-related movies and documentaries, and parties.

Criterion Description:

G3O2I2C1: A Science Education student organization will be developed and the majority of students in the Composite Science program will be members of the organization.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 2

G3O2I3: Luncheon

Indicator Description:

The College of Education and College of Science and Engineering Technology will host a luncheon for members of the cohort at the end of the academic program.

Criterion Description:

G3O2I3C1: A majority of Composite Science majors will attend the dinner.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

Goal 4: Program Improvement

Goal Description:

Establish a system for obtaining feedback which can be used to improve the program.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

G4O1: Student Perceptions

Learning Objective Description:

Obtain information regarding student experiences and perceptions of the program.

RELATED ITEM LEVEL 2

G4O1I1: Senior Surveys

Indicator Description:

Survey seniors using the Services and Operations instrument to obtain information about their experiences which can be used to improve the program. This survey is given during the Student Teaching Block.

Criterion Description:

G4O1I1C1: 90% of the seniors who complete the survey will indicate that they were satisfied with the program.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G4O2: Alumni Advisory Committee

Learning Objective Description:

Establish an Alumni Advisory Committee to provide information for improvement of the program.

RELATED ITEM LEVEL 2

G4O2I1: Alumni Committee membership

Indicator Description:

Identify 5 former graduates at various stages of their career to serve as an advisory panel for the program. Meet with this committee every two years

Criterion Description:

G4O2I1C1: Actionable information will be provided by the Advisory Committee.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

Goal 5: Financial Support

Goal Description:

Provide financial support for students in the Composite Science program.

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

G5O1: MOUs

Learning Objective Description:

Establish MOUs with school districts to provide scholarships for Composite Science majors.

RELATED ITEM LEVEL 2

G5O1I1: Scholarships

Indicator Description:

Scholarship MOUs will be established

Criterion Description:

G5O1I1C1: Scholarship MOUs with 3 schools and/or school districts established between fall 2017 and fall 2019.

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

RELATED ITEM LEVEL 1

G5O2: Employment MOUs

Learning Objective Description:

By fall 2020, establish MOUs with three school districts to guarantee employment for Composite Science graduates.

RELATED ITEM LEVEL 2

G5O2I1: Guaranteed Employment

Indicator Description:

Guaranteed employment MOUs established with schools/school districts

Criterion Description:

G5O2I1C1: **Guaranteed Employment MOUs with 3 schools and/or school districts established.**

Findings Description:

As this is a new program as of Spring 2017, there are no findings to report.

RELATED ITEM LEVEL 3

New Degree Program for 2016-2017

Action Description:

The Composite Science BS program is new degree being implemented during 2016-2017. There are no actions to report for the unit at this time.

Update to Previous Cycle's Plan for Continuous Improvement

Previous Cycle's Plan For Continuous Improvement (Do Not Modify):

The Composite Science BS program is a new unit for 2016-2017. No previous Plan for Continuous Improvement exists for this unit as it did not exist in prior cycles.

Update of Progress to the Previous Cycle's PCI:

The Composite Science BS program is a new unit for 2016-2017. No previous Plan for Continuous Improvement exists for this unit as it did not exist in prior cycles.

Plan for program implementation 2017-2018

Closing Summary:

This program was approved within the past year and, currently, has only two students enrolled. One student declared this as their major in the spring and one has done so as of the fall semester 2017. In spite of this small number, we anticipate significant growth in numbers as students become aware of the program and incentives are put in place to support students seeking this degree.

As this is a new program, the specific assignments and learning resources/materials described in the indicators will need to be developed - in a sequential fashion - as the students progress through the program. For example, the study guide materials will be developed over the course of the upcoming year so that they will be in place when students need them to prepare for the Representative and TExES exams. This will require the efforts of faculty within each department represented by this degree. In addition, we will need to identify mentors from these departments. The assessments/ assignments described for the Science Methods course will be developed when the course is taught. The results regarding assessments within the College of Education coursework will become available once our students take those courses.

As regards the administration of the CAT exam to the Composite Science students, it will be possible to begin this in the Fall of 2017 given that this is a freshman level course required of all Composite Science majors and this test is typically given every semester.

The most pressing goal as we begin the start of the new academic year is to ensure that we develop the database used to track our students' progress through the program and to make sure that they are aware of the timeline and requirements for the completion of the degree, as well who their mentors will be for each program area.