



Preparing, Supporting, and Advising 2YC/4YC Transfer Students

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Supporting Geoscience Transfer Students

Compiled by Karen Layou (Sergeant Reynolds Community College) and [John McDaris](#) (Science Education Resource Center).

In addition to other resources, this site draws on discussion by participants at the [2012 Preparing Students in Two-year Colleges for Geoscience Degrees and Careers Workshop](#).

Many students enroll at two-year colleges (2YC) as a cost-effective and flexible way to pursue higher education. Some students begin their studies with the intent of completing an associate's degree, and transferring on to a four-year college (4YC) to complete a bachelor's degree. Others may not have this path initially in mind, but discover a passion for geosciences while at their 2YC. 2YC faculty play a key role in identifying students that have an interest in geosciences, supporting programming that serves the advising needs of these students, and exposing students to professional development activities that will promote the skills and interactions necessary for success at a four-year institution.



Early Recruitment of Majors

2YC geoscience faculty are typically the first point of contact for 2YC students considering transfer to a 4YC geoscience program. Personal interactions and encouragement from faculty can be essential to giving 2YC students confidence to explore this path.

Supporting Transfer Students

Once students are enrolled at a 4YC institution, they may still need support regarding transfer issues.

Minimize Transfer Shock

Transfer shock can be a significant barrier to student success. Faculty can help by providing support and resources.

SAGE 2YC has developed a resource to help faculty at two- and four-year institutions assist students through the transfer process. Information on best practices has been compiled for a number of important transfer issues:

- Early Recruitment of Majors
- Supportive Advising
- Minimize Transfer Shock
- 2YC-4YC Collaborations

Examples from faculty who work with transfer students illustrate ways of implementing practices to support students through a successful transition.

Early Recruitment of Majors

Early identification of students with an interest in geoscience careers and transfer options is critical to helping them develop a pathway to achieving their goals. 2YC faculty can maximize support of transfer students by incorporating both fundamental geoscience skills and informal advising in their courses. While a strong foundation of basic college-level skills, including writing, quantitative problem solving and laboratory work is necessary for transfer student success, personal interactions and encouragement from faculty can be the essential first step to helping students navigate the transfer process.



Determine Interest Levels

Find ways to engage with students early in the term to learn about their strengths and interests. If particular students are already interested in transferring on to study geoscience at a four-year institution, knowing early will help you help them reach those goals. But this also helps faculty to see possibilities for students that they may not be aware of themselves. Students with strong quantitative and problem solving skills may never have considered being a geoscientist but just might if given encouragement.

David Voorhees, of Waubesa Community College, shares ways to determine student interest in geoscience.

Encourage Student Engagement

Students who are engaged – with learning communities, service learning, or on students (Kuh et al., 2007; Kuh, 2009) foster more engaged interaction.

Share your Personal Experience

A key benefit of 2YC programs is the support of faculty who love what they teach. By discussing their own career paths, and how they pursued a higher degree (Pickard et al., 2010), faculty can help students see the possibilities.

Show them a Future in Geoscience

2YC students may be encouraged to see a future in geoscience by sharing examples of successful graduates and the impact of their work.

Early Recruitment of Majors

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- Determine Interest Levels
- Encourage Student Engagement
- Share your Personal Experience
- Show them a Future in Geoscience

Minimize Transfer Shock

The phrase "transfer shock" refers to the academic and social disorientation experienced by students following a transfer from one institution to another, whether that was between 4-year institutions or from a 2-year to a 4-year institution. New ways of doing things and new expectations can take their toll if students aren't prepared for them. And having already spent two post-secondary years (or more) at a community college, transfer students can also feel pressure to finish their upper-division major work in as short a time as possible. Putting systems in place that reduce the amount of shock these students face during the transfer process will help them be successful and it will also make it easier for two-year colleges to create a stable pipeline to their four-year institution partners.



Connect 2YC Students to 4YC Faculty and Students

Create collaborative research opportunities. Undergraduate research is a great way for students to learn and connect with faculty, staff, and other students conducting cutting edge research, but reaching out to important research in close company with 4YC faculty and staff can help establish a comfort level in the new environment.

Work directly with 4YC faculty. Even if you don't have a research collaboration with faculty, they can help keep an eye on students transferring between institutions simultaneously, this communication can also help 4YC faculty understand where their transfer students are.

Joint GeoClub Activities. If there is a GeoClub at your 2YC and at the local 4YC, get together as a speaker. Getting to know their peers from the 4YC institution and see themselves being successful there.

Get students on campus. Students who know their way around are going to be more successful. Take students on a short field trip to get a tour of the department and see the new campus in as much detail as possible.

Also encourage your students to take advantage of things like the new campus in as much detail as possible.

Provide Students with Information. Share information about the 4YC institution and the geoscience department with your students.

Minimize Transfer Shock

New ways of doing things and new expectations can take their toll if students aren't prepared for them.

- Connect 2YC Student to 4YC Faculty and Students
- Provide Students with Information and Contacts
- Stay Connected with Students who Transfer

Supportive Advising for the Transfer Process

If students have shown an interest in learning more about transfer options available to them, quality advice must be available regarding fulfillment of 2YC degree completion and 4YC transfer requirements. It is important that the information they receive is consistent across faculty and institutions.

Related Links:
[2YC-4YC Collaborations](#)
[Supporting Transfer Students](#)

Engage with the Students

At the most basic, advising begins with talking to the students and learning about their goals and ideas for their future. That is the information that you will need to give them good advice. Try holding an information session for students interested in geoscience as a career. That will provide an opportunity to share information about what kind of degree is necessary for different careers, and steer students towards transferring for a B.S. for more opportunities. Then you can meet individually with students who want to learn more about transferring. You can meet with students who are involved with the process. Be sure to stress college counselors on the 2YC end since they are the ones who are in contact with you.



Familiarize yourself with Articulation Agreements

After completing a degree at your 2YC, to where these 4YC knowing the answers to these questions (articulation agreements in place, familiarity with requirements), what 2YC geoscience courses will be expected to complete if you have an articulation agreement, you may want to more you can help minimize "transfer shock."

Eleanor Cannam of Red Rocks Community College shares her experience with articulation agreements in Colorado.

Make Transfer Information Readily Available to Students

Where possible, share resources about transfer in major and minor information. This collection of resources is available on the SAGE 2YC website.

Supportive Advising for the Transfer Process

Quality advice must be available regarding fulfillment of 2YC degree completion and 4YC transfer requirements.

- Engage with the Students
- Familiarize Yourself with Articulation Agreements
- Make Transfer Information Readily Available to Students

2YC-4YC Collaborations Serving Transfer Students

Both formal and informal collaborations between 2YC and 4YC faculty help to create and maintain a sense of community and network of support for transfer students.



Communicate with Local Four-year Institutions

Like all relationships, strong collaborations between 2YC and 4YC faculty and institutions require strong communication in both directions. Here are some ideas for maintaining strong connections with local colleagues.

- Advertise opportunities. Network with local institutions to find out about career days, guest speakers, seminars and workshops on all campuses.
- Communicate with 4YC colleagues. Share information about the effectiveness of transfer programs.

Investigate Research Collaborations

Research opportunities are a great place for students to learn and connect with faculty, staff, and other students conducting cutting edge research, but reaching out to important research in close company with 4YC faculty and staff can help establish a comfort level in the new environment.

El Paso Community College and the University of Texas at El Paso have a research relationship that has led to an increase in participation of Hispanic students in research.

An aquatic environmental science program at Northwest Florida State College and the University of Florida has a field collection of data with a variety of species from the 2012 World Water Quality Assessment.

Facilitate Social Interactions

Fostering opportunities for social interaction between 2YC and 4YC students can reduce the anxiety of transfer. It can be intimidating for two-year students to experience how the "system" works, so providing support can help reduce this anxiety. For example:

- Coordinate campus visits to 4YC institutions.

2YC-4YC Collaborations Serving Transfer Students

Formal and informal collaborations between 2YC/4YC faculty help to create and maintain a sense of community.

- Communicate with Local Four-year Institutions
- Investigate Research Collaborations
- Facilitate Social Interactions between 2YC and 4YC Students and Faculty

serc.carleton.edu/sage2yc/workforce/transfer/index.html



More Resources from SAGE 2YC

Geoscience Careers

Geoscientists in the Workforce: An Overview

People with geoscience expertise can be found in many parts of the workforce. This page lays out information about what geoscientists do, what kinds of preparation are necessary, and what the earning potential is in various parts of the geoscience workforce.



Career Pathways

There are a wide array of careers available to people with degrees in geoscience but they require different levels of preparation. Students can use the information on this page to plot their own route to a satisfying career in the geosciences.

Geoscience Employment Trends

The landscape of career opportunities in geoscience is constantly changing. To help your students prepare for their future careers, you need to know what their options will be. This page from the Building Strong Geoscience Departments site has predictions based on recent trends. The page also has links to salary data for professional geoscientists.

Professional Society Career Resources

There are many professional societies in the geosciences that offer guidance and resources for students interested in that particular field of work. There are also professional networks to support women and minorities in geoscience and in science careers in general.

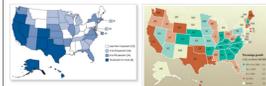
Career Profiles

If students don't personally know someone with a geoscience background, it can be difficult for them to imagine themselves as a geoscientist. This collection of career profiles combines personal descriptions of the individual career paths of many geoscientists. From academia, to industry, to government, and beyond, there are many ways that a geoscience degree can set our students up for success.

Supporting English Language Learners in Our Classes

This module was developed by Katherine Aulisio, College of William & Mary, expanding from a presentation at the 2010 [Supporting Student Success in Geoscience at 2YC](#) conference.

English Language Learners (ELLs) are currently the fastest growing segment of the public school student population in the United States. The K-12 ELL student populations in more than ten states increased over 200% in the ten-year period from 1995-2005. Seven more states saw their ELL student populations grow by 100-200% during the same time period (Data from National Clearing House for English Language Acquisition, 2010 Migration Policy Institute). More than ever, students graduating from high schools in the U.S. are enrolling college while still in the process of acquiring and/or refining their skills in English. Two-year colleges have already begun to provide instruction to this new wave of undergraduate students. "Today, about one in four students in community colleges is an immigrant and the numbers are increasing" (Crandall and Sheppard, 2004).



Who are the English Language Learners (ELLs) in our classes?

The broad heading of "English Language Learners" includes several identifiable subsets of individuals who may have very different, and distinct, instructional needs:

- International Students
- Immigrant Students

Stereotype Threat and Solo Status

Based on work by Cheryl Dwyer (College of William and Mary) and Christine Malmgren (University of Maryland Eastern Shore) presented at the 2010 [Supporting Student Success in Geoscience at 2YC](#) conference. Compiled by [John McDaris](#) (Science Education Resource Center).



Stereotype Threat and Solo Status are two related issues that underrepresented populations often face in the academy. Knowing what triggers the negative effects and how to minimize their impacts on students' success is an important part of helping all students be successful in our classes.

What is Stereotype Threat?

Stereotype threat is "the threat of being viewed through the lens of a negative stereotype or the fear of doing something that would inadvertently confirm that stereotype." (Steele, 1998) When activated, stereotype threat causes students to perform worse on assignments than they might otherwise.

What is Solo Status?

Solo status is the experience of being the only member of one's particular community present in a group. This experience can lead to stress and poor performance because the student may be perceived to represent his or her entire community.

Mitigating the Impacts

There are a number of things that faculty can do in their classes to minimize the effects of both stereotype threat and solo status. Many of these strategies do not depend on what kind of stereotype is in play and also provide benefits to many students for whom neither effect is relevant.

Resources

Undergraduate Research with 2YC Students

Compiled by John Blodgett of SERC.

Why Undergraduate Research?

Undergraduate Research has been shown to have many benefits for students. In particular, undergraduate research (based on [John Blodgett's Research Experiences](#)):

- helps students learn content and practical skills,
- prepares students for the academic workplace,
- promotes students' cognitive development, (Lopatto, 2004)
- promotes students' affective development, (Krahlwacht et al., 1964)
- helps develop students' sense of self, (Bauer and Bennett, 2003)
- can be the hook to get students interested in pursuing geoscience as a career.



These benefits are important for all students, regardless of institution. Early exposure to research experiences has been shown to be effective in increased retention of students, improved retention and persistence in degree programs, motivation for students to learn and increase self-efficacy, improved attitudes and values about science, and overall increased student success. An increasing number of four-year institutions are incorporating research into the introductory parts of their curriculum for these reasons. As more students, especially students from traditionally underrepresented minorities, begin their undergraduate education at two-year colleges (2YCs) and then transfer to complete their bachelor's degrees, it becomes increasingly important that they have similar research experiences in their time at those institutions. If they are to be as successful as the students who begin college at four-year institutions. This page of webpages addresses the particular issues and concerns of implementing student research with students at or from two-year colleges.

What is Undergraduate Research?

Undergraduate research is a collection of geoscience teaching activities at various levels. This set of SAGE 2YC webpages will address the particular issues and concerns of implementing student research with students at or from two-year colleges.

Starting Point: Teaching Introductory Geoscience

Teaching Introductory Geoscience has a high-quality resource on the What, Why, and How of [teaching introductory geoscience](#) in general including a collection of geoscience teaching activities at various levels. This set of SAGE 2YC webpages will address the particular issues and concerns of implementing student research with students at or from two-year colleges.



This work is supported by the National Science Foundation Division of Undergraduate Education through grants DUE 1122592, 1122640, 1122660, and 1122737.

<http://serc.carleton.edu/sage2yc/index.html>