

SAGE 2YC

*Supporting and Advancing
Geoscience Education in
Two-year Colleges*



Best practices to improve preparation of 2YC students for transfer

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Goals

- Identify the **challenges** in preparing 2YC students for a successful **geoscience transfer** to four-year college or university (4YCU) degree
- Share ideas for **best practices** to improve the preparation of 2YC students for a geoscience degree
- Identify and discuss **current transfer agreements** between 2YC and 4YCU geoscience departments in Illinois
- Foster development of a **local network** of faculty and department chairs interested in 2YC geoscience education

2 minute Introductions

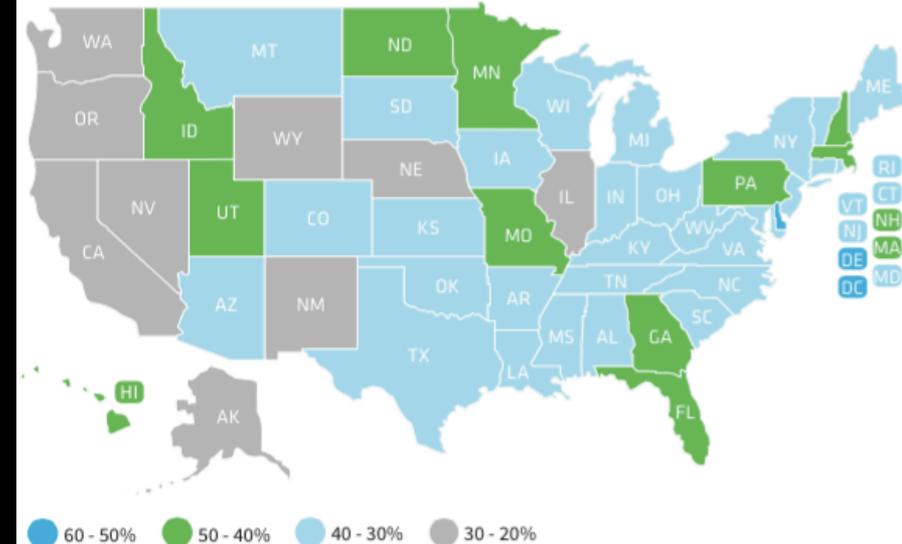
- Name
- School
- Classes taught
- What is the 1 aspect about geology you would like your students to learn, understand or appreciate?

What are the challenges for a successful transfer of a 2YC geoscience student to a 4YCU?

- First time vs non-traditional?
- Specific to geosciences?



Completion Rates: Non-First-Time (NFT) Students by State



(InsideTrack.com, 2014)

Factors that influence student persistence

<p>Academic Social</p> <p>Integration/ Involvement</p> <p>Extra & Co-curricular</p>	<p>Motivation</p> <p>Self-Regulation</p> <p>Mindset Learning Strategies</p>
<p>Cultural Social</p> <p>Capital</p> <p>Academic</p>	<p>Transfer receptivity</p> <p>Organization Culture</p> <p>Transfer shock</p>

Barriers to completing geoscience degree after transfer



- National survey, 596 responses
 - 26% attended some 2YC
- Four common themes:
 - Personal issues: time, family & money
 - **Academic challenges**: underprepared, math and structural geology
 - **Self-regulation**: motivation, emotion, employment of skills
 - **Institutional barriers**: transfer pathways, academic advisors, course offerings
- Many of these factors are true for non-transfer students, but may not be as acute ([Wilson, 2014](#))

Gallery walk

- Learning skill challenges
- Content challenges
- Motivation challenges
- Financial challenges
- Logistical challenges
- Challenges in personal life of student
- Other challenges

Break

- For each challenge
 - Blue dot = your first choice
 - Red dot = your second choice
 - Yellow dot = your third choice

Gallery walk 2

What can we do ...

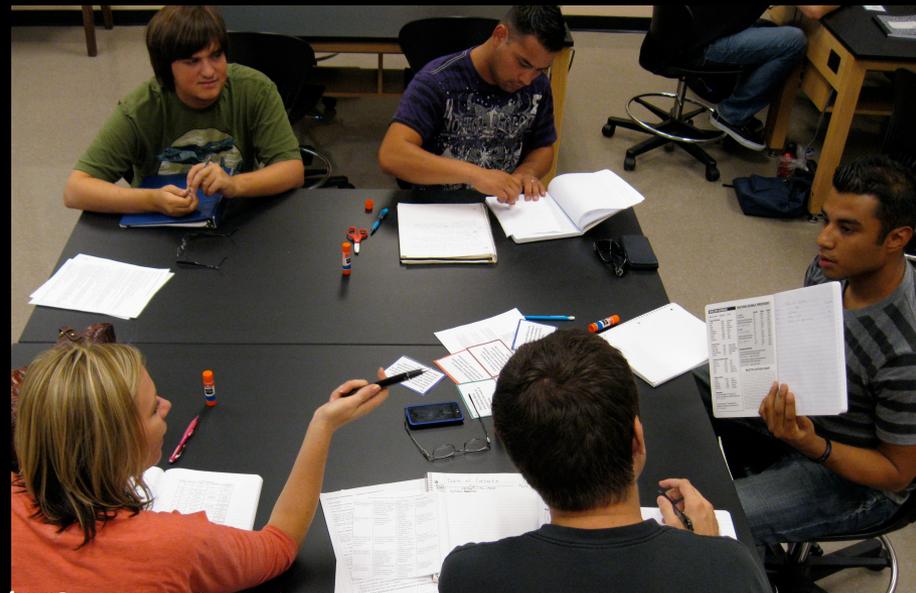
- in the classroom
- in the lab
- as a mentor to the student
- outside the classroom

Lunch

- For each “best practice”
 - Blue dot = your first choice
 - Red dot = your second choice
 - Yellow dot = your third choice

What influences student persistence at classroom level?

- Students need to be **interested in the content and have high self-efficacy** in order to choose to persist.
- The classroom environment helps to dampen that impact
- **Math** plays a role with 2YC more so than 4YC/U in making the decision to persist



GARNET

Serc.carleton.edu/garnet

www4.ncsu.edu/~damconn/affective.html

Transfer Student Feedback

Nine students responded to survey questions

Presentation shows top three responses for each category

Handout compiles all the responses

What interested you in geoscience as
a major?

- a) Instructor enthusiasm for subject
- b) Combined interest in science, outdoors,
and camping
- c) “Hard science,” broad field, important to
society, public service component, and
puzzle-solving

How did 2YC experience help with 4YC program?

- a) Prereq's completed at 2YC allowed student to focus on majors courses at 4YC
- b) Faculty at 2YC focused on teaching (helped build student confidence)
- c) Field experiences at 2YC helped with spatial skills, sketching, teamwork, and safety

Biggest challenge when transferring to 4YC?

- a) Networking with professors & other students
- b) Financial challenges (commute & field camp)
- c) 4YC course schedules not as flexible (less evening classes offered for non-traditional students); level of difficulty increased

Advice for other geoscience transfer students?

- a) Complete Associates degree first. If not, take as many foundational & prerequisite classes that will transfer
- b) Plan, plan, plan!
- c) Get involved after transferring – Transfer Center, student organizations, department field trips, volunteer at local & state agencies

Transfer Student Feedback



2YC transfer students graduate from the University of Arizona, December 2014

What transfer agreements exist?

- Geoscience
- Strategies for Supporting 2YC-4YC/U Student Transfer in the Geosciences
- Karen Layou
 - Reynolds CC, VA
- Diane Doser
 - U of Texas, El Paso
- Gretchen Miller
 - Wake Tech CC
- Katryn Wiese
 - City College of San Francisco

Support for geo transfer students



- Emphasis on personal interactions
- Encourage participation in on-campus, local community STEM events
- Foster 4YC expectations
- CONFIDENCE



Karen Layou



U Texas – El Paso

- Before transfer
 - Visits to 4YC and 2YC
 - Joint field trips & research
- After transfer
 - Meet other transfers
 - Find mentors
 - Find financial support
 - Visits as 2YC ambassadors
- Diane Doser
 - U of Texas, El Paso

Wake Tech CC – NC State U

- Wake Tech students participate in paid summer research internships at NC State
 - NSF OEDG
 - Poster presentations @ end
- 3 years (2012-2014)
 - 28 research projects completed

Gretchen Miller

City College of San Francisco

- Building confidence & content expertise
 - Curriculum
 - Majors
 - Mentoring / tutoring / lab aide
 - AGU conferences
- Building community support
 - Earth Sciences Club
 - Website
 - Annual newsletter

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Katryn Wiese

Transfer agreements in IL

- State wide
 - IAI
- College – to – college
- Geo Department to Geo department
- What is more important?

What's next?

- Action plan
 - Is a better defined group needed?
 - What form should that be?
 - Virtual, in person
 - How to communicate?
 - Use IAGI website that will be available soon?

Evaluations

- Online now
- <http://serc.carleton.edu/sage2yc/studentsuccess/local2015illinois/XXXXXXXXXX.html>
- NO snacks without completing eval!!!

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Field trip



Stop 1: Road cut of LaSalle Limestone Member of the Bond Formation
fossil collection and discussion (minimal walking)

Stop 2: Mattheissen State Park (Upper Dells Area):
St. Peter SS & Platteville-Galena Formation
examination and discussion of surficial processes, structures,
and groundwater