Driver Diagram 2.0
2022

FIRST2 PRIMARY DRIVERS 4/2022

Over the next 10 years, double the graduation rate (from 30% to 60%) of the students in West Virginia who enter college with a declared STEM major who complete a STEM degree within 4 years. Measures

STEM students succeed academically.

STEM students are meaningfully connected with faculty, staff, and peers in ways that promote belonging (fit), wellness, resilience, and financial stability.

STEM students feel connected to STEM research, understand STEM career options and feel competent enough to pursue them.

STEM students engage in leadership experiences that identify systemic issues impeding students' success in STEM, and co-create new solutions to these issues.

NSF

FIRST2 NETWORK

SECONDARY DRIVERS FOR PRIMARY DRIVER 1
4/2022

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Institutional teams work with campus services to improve student use of **tutoring, study groups, and faculty office hours** among First2 students.

STEM departments adopt **course policies** and procedures that focus on encouraging persistence among First2 students

Institutional teams work with appropriate decision makers to ensure that **math experiences** shorten the path to and through required gateway math and science courses for First2 students.

Administrators and provosts -- structure **faculty rewards systems and performance expectations** to incentivize faculty participation in activities that support academic success for First2 students.

Aligned Change Ideas

Expanded or Group Office Hours

Metacognition: Faculty Intro Lecture in Class

Exam Performance Debrief and Planning

Faculty PD to Support Student Metacognition

Metacognition: Understanding Check Survey

Faculty: Providing Examples of Expected Assignment Performance

Math Summer Boot Camp

Faculty PD: Reducing Math Anxiety in Freshman Math Students

Faculty PD: How to Integrate Research Experience into Class

Mental Model Shift: STEM faculty need to develop strategies to help first-generation students succeed, not just "weed out" students.

First2 students = rural, first-generation, or Pell eligible STEM students.

SECONDARY DRIVERS FOR PRIMARY DRIVER 2 4/2022

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STEM students engage in leadership experiences that identify systemic issues impeding students' success in STEM, and co-create new solutions to these issues.

Aligned Change Ideas

To support *fit*, institutional teams work with STEM department chairs and lead faculty to develop a **welcoming campus climate** to First2 students (e.g., increasing frequency, duration, type, quality of supportive interactions).

Faculty & Student Surveys to Build Understanding of STEM Teaching and Learning

To support *wellness* and *resilience*, institutions will guide faculty and staff to establish and facilitate opportunities for **student-led peer and near-peer support.**

Common First-Year Challenges and Questions

Faculty-Student Social Interactions

Campus Clubs

To support *financial stability*, institutional teams work with the faculty and staff to ensure first-generation students make use of **a wide range of financial resources**.

Mental Model Shift: Campuses and STEM faculty focus on connecting first gen students to supportive social networks.
First2 students = rural, first-generation, or Pell eligible STEM students.

SECONDARY DRIVERS FOR PRIMARY DRIVER 3 4/2022

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STEM students engage in leadership experiences that identify systemic issues impeding students' success in STEM, and co-create new solutions to these issues.

Aligned Change Ideas

Institutional teams coordinate with workforce partners and career services to connect First2 students to **STEM career pathways and jobs.**

Career Internship Immersives

Administrators and faculty coordinate to increase participation in **research experiences** for First2 students.

Research Immersives (including Summer Immersives)

Mental Model Shift: Campuses clarify the career pathways for STEM students, both research and commercial.

SECONDARY DRIVERS FOR PRIMARY DRIVER 4 4/2022

Aligned Change Ideas

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STEM students feel connected to STEM research, understand STEM career options and feel competent enough to pursue them.

STEM students are recruited to engage in leadership experiences that-identify systemic issues impeding students' success in STEM, and co-create new solutions to these issues.

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Institutions fund and engage rural, first-generation, and low-income students as **campus leaders** around STEM success who identify barriers and co-create solutions.

Recruit students to become campus leaders and/or support immersive activities; Institution designates a campus coordinator organizing **student-led** initiatives for First2 students

Leadership: Students talking with faculty and administrators

Leadership: Becoming a College Readiness Ambassador

Leadership: Becoming a Summer Immersive Mentor

Leading Immersive Activities

Mental Model Shift: Campuses conduct active outreach to identify first-gen students and connect them to resources.