Achieving Inclusive Excellence through Access, Retention and Performance.

Broadening Opportunity through Leadership and Diversity (BOLD)
Integrating diversity and quality initiatives—as with the forging of elements into an alloy—to produce something that is both different than its constituent elements and stronger and more durable.

• Broader inclusion model to serve students from multiple under-served populations
BOLD: Why Disruptive Change?

- Not on path to meet strategic plan diversity goals
- Didn’t measure (or understand) our own academic performance or retention outcomes
  - Diminished access, retention and performance results for URM students
  - Only ~half of URM students participated in MEP
  - URM recruitment flat
  - Few high school partnerships beyond ITL Pgm
- Gaping cultural divide in BOLD Center between URM and women students
BOLD: Why Disruptive Change?

- Limited focus on scholarship — more social
- NACME gave up on us (lost most URM scholarships)
- Evolving needs of populations not served by college
  - Low income students of any ethnicity
  - First generation college students
  - International students
  - GLBT community

Where We are Now

Broadening Opportunity through Leadership and Diversity (BOLD)
BOLD Leadership Team

Dr. Bev Louie
Teaching & Learning Initiatives

Dr. LaRuth McAfee
Student Engagement & Community Building

Mr. Nate Wright
Access & Recruiting

(soon-to-be Dr.) Stephanie Rivale
K-12 Engineering Education

Ms. Tanya Ennis
GoldShirt

BOLD Organization

Updated 9/10/09

Women in Engineering Thread

Stephanie Rivale
Director
K-12 Engineering Education

Nate Wright
Director
Recruiting and Access

Tanya Ennis
Coordinator
GoldShirt Program

LaRuth McAfee
Director
Student Engagement & Community Building

Bev Louie
Director
Teaching & Learning Initiatives

Lelei Finau-Starkey
First Year Coordinator

Underrepresented Minority Thread

Janet Yowell
K-12 Engineering Coordinator

K-12 Partnership Programs
Focus 12: Minority-Serving Institutions Focus 9: Female recruiting

Capacity-Building
Success Institute PreCollegiate Program TEAMS Centaurus High TEAMS DSST High TEAMS Skyline High Native American Program MESA events

Event Management
Senior Day Admitted Students Day Engineering Open House Student for a Day Fridays Student Ambassadors

Capacity-Building
WIE Recruiting Strategies MC Recruiting Strategies GoldShirt Recruiting Counselor Awareness General College Recruiting Focus 12

Program Leadership and Admin

Volunteer & Development
GEEN 1500 – Intro Engr Develop Co-seminars (1 th pass/fail) Dev Sophomore Retention Pgm Std Success Center / Tutoring Science of Learning Faculty Wikihps Faculty Diversity Wikihps Student Diversity Wikihps Grad Stg Promotion w/ Ugs Mentoring Workshops (faculty) WIE/ME Engr Skill Development Wikihps

BOLD Organization

Jackie Sullivan
Associate Dean for Inclusive Excellence
Enhancing Diversity through Access, Retention & Performance

Beth Myers
Assistant to Associate Dean
Data Analysis

Daniel Knight
Assessment
BOLD Advisory Board (2 students + faculty) BOLD Strategic Direction Results Feedback Internship Opportunities Mentoring

Vickie Scheuermann
Office Manager

Diversity Action Committee
College Faculty

BOLD Student Leadership Council

BOLD Minority Student Retention
BOLD Retention of Women BOLD Student Mentoring Andrews “Residential College”

Summer Bridge GEEN 1510 – Self Mgmt & Leadership

Definition: Diversity as related to the College of Engineering and Applied Science includes first-generation college bound youth, women, students of color and students from low income families

BOLD Minority Student Retention BOLD Retention of Women BOLD Student Mentoring Andrews “Residential College”

GS Program Administration
GS Student Instruction
GS Summer Bridge Leader
GS Student Mentoring
GS Student Success

GS Program Administration
GS Student Instruction
GS Summer Bridge Leader
GS Student Mentoring
GS Student Success

Fundraising & Development
GEEN 1500 – Intro Engr Develop Co-seminars (1 th pass/fail) Dev Sophomore Retention Pgm Std Success Center / Tutoring Science of Learning Faculty Wikihps Faculty Diversity Wikihps Student Diversity Wikihps Grad Stg Promotion w/ Ugs Mentoring Workshops (faculty) WIE/ME Engr Skill Development Wikihps

Cindy Cabrales
Program Assistant

Sopniomore Retention Initiatives
BOLD Culture Today

- We’re a learning community...change takes time
- Data driven (everything worth doing is worth measuring)
- Focus on scholarship (we’re an academic endeavor)
- Formed representative Student Leadership Council
- Enhanced sense of professionalism – BOLD facelift; critical mass of qualified staff; centralized systems administration
- BOLD Center busier than ever - crowded
- Some minority upper class students disengaged and grumpy (not their space anymore)

BOLD(ly) Emphasizing Academics

- Self-Management & Leadership overhaul (GEEN 1510)
- Living & Learning Community at Andrews Hall — in partnership with Engineering Honors Program (academics, community, faculty interactions)
- Midterm interventions

BOLD Student Success Center

- New! Free tutoring for all Engineering students
- 15 Courses: Calc 1, 2, 3, DE, Chemistry, Physics, Ochem, Circuits, Material & Energy Balances, Probability, etc.
- 115 students visited 263 times in September →
  53 First Year, 43 Sophomore, 15 Junior, four Senior
- 16 tutors (10 undergrad, 6 six graduate)
- Supported by Engineering Excellence Fund
GoldShirt Program

- **GoldShirt** performance enhancing (5th) year
- Creating community for success ("cohortization")
- They’re on the engineering college team...
- Model based on educational research (NSF support)
- Pioneering a program for *inclusive excellence*
- Pilot cohort had significant impact on fall 2009 URM diversity
- Expand to ≥30 fall 2010

Pilot Year Student Demographics (n=16)
- 13 URM (81%)
- 11 1st Generation college-bound (69%)
- 7 women (44%)
- 6 English Language Learners (38%)

Real people w/ rich stories — young Latina mom, cancer survivor, Native American rancher, three rural students

Calculus Readiness — 12 should complete Calc I during GoldShirt year (exceeds expectations); all will be at least Calc I ready by year end

GoldShirt Academics

- Math - range Intro to College Math → Calculus 1
- Physics 1000 (Preparatory Physics)
- First Year Engineering Projects (mainstreamed)
- Academic Excellence Workshop
- Leadership and Self-Management (GEEN 1510)
- Engineering for Society Humanities
- Early results encouraging; stay tuned
- Can we dig deeper in preparedness pool?
BOLD K-12 Initiatives

- **New!** Creating new minority – serving high school partnerships w/ our college *(Focus 6 Access & Recruitment)*
- **New!** Identify and nurture top ten women engineering student-producing schools *(Focus W Access & Recruitment)*
- **New!** Creating new Skyline STEM partnership *(Longmont)*
- **New!** Helping expand DSST to four more 6-12 schools
- Intensifying Lafayette partnership *(Access & Recruitment)*
- Lead *TeachEngineering* digital library development *(NSF)* (>800 hands-on lessons & activities used by ~45,000 users monthly)

Data and Research Driven

• Stay on top of our results – discuss them constantly for shared understanding
• Review the literature thoroughly
  o Summer Bridge meta analysis (37 programs)
  o Retention analysis (social sciences literature)
• Take risks and try new approaches (e.g., GoldShirt Program)
• Don’t be afraid of some failures
• Give up sacred cows

Financially Needy Students

• An untapped pathway to increasing diversity?
• 10% (230) of our resident, undergrad students are Pell Grant-eligible
• Overwhelming ~$7000 unmet need
  o Minority students represented 2x
  o First-generation college-bound 2.5x
• College must find resources to provide significant need-based aid to make an engineering future possible for these women and men
New BOLD Resources Generated

- **New!** GoldShirt Program **$526K** in first two years ($148K NSF, $78K private, $300K campus)
- NACME **$225K** over next 5 years (75%)
- **New!** Student Success Center **$51K** (EEF $42K, departments/deans $9K, EEF future commitment $20K/yr + campus match)
- BOLD Center facelift **$16K**
- Minority recruiting **$3K** (CU system)

Where We are (BOLDly) Heading...
Where We’re Going

• Manage culture transition
• Pursue new initiatives
• Establish Corporate Board
  o Executive directors from NACME, WEPAN
  o Engineering firm execs
• College-wide faculty Diversity Action Committee
• Institutionalize Student Success Center

New BOLD Initiatives Proposed

- NSF S-STEM $600K proposal for need-based scholarships for low income students (3 yr) (team w/ APPM and ITL)
- NSF GK-12 for 9 URM PhD students $3M Engineering for Society theme (5 yr) (team w/ ITL, EVEN, CEAE & MCEN)
- EEF K-12 access proposals $4K
- We need EAC help to generate significant diversity-enhancing resources

Thank You!

BOLD....
Inclusive Excellence through Access, Retention and Performance.
Thank You!

BOLD....

Inclusive Excellence through Access, Retention and Performance.
Historic Results
Our Undergraduate Female First-Year Enrollment
Historic Results
Our URM & Female Undergraduate Enrollment

- **First-Year URM**
- **All UG URM**
- **National**
  - 17.9%
  - 14%

- **First-Year women**
- **All UG women**

Data points:
- 1997: 9.3%
- 1998: 7.9%
- 2009: 24.6%
Historic Results
Our Six-Year BS Graduation Rate by Gender
Historic Results
Our Six-Year URM BS Graduation Rate

Underrepresented Minority Students

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Historic Results
Our Engineering BS Degrees Awarded

% Women National
% Women CEAS
% URM National
% URM CEAS

21.7%
21.2%
20.0%
19.5%
19.0%
18.5%
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1.0%
0.5%
0.0%

11.2%
10.0%
9.9%
8.9%
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%

Historic Results
Our Engineering BS Degree Performance Gap

Women
Majority
Men
URM

35 URM students with degrees in 2008-2009
20 < 3.00 (57%)
15 ≥ 3.00 (43%)
range 2.27 – 3.59

As compared to non-URM 456 Majority
149 < 3.00 (33%)
307 ≥ 3.00 (67%)
range 2.02 – 3.99
GoldShirt Core Values

- **Integrity** — Consistently being honest in everything you do
- **Excellence** — Striving to do the best in everything that you commit to
- **Respect** — Being accepting and understanding of others’ personal space, beliefs and values!
- **Acceptance** — The ability to observe and respect one’s individuality, values and culture
- **Encouragement** — Helping someone realize their potential by giving support and showing understanding
- **Unity** — Acting together as one
- **Responsibility** — Working to get the job done in a respectable amount of time
- **Perseverance** — The ability to overcome obstacles and keep on going