Embedding Cross-Cultural Communication Awareness and Skills Training in a Living Learning Community for First-Year Undergraduate Engineering Students

Ms. Ashley R Taylor, Virginia Tech

Ashley Taylor is a doctoral candidate in engineering education at Virginia Polytechnic and State University, where she also serves as a program assistant for the Center for Enhancement of Engineering Diversity and an advisor for international senior design projects in the Department of Mechanical Engineering. Ashley received her MS in Mechanical Engineering, MPH in Public Health Education, and BS in Mechanical Engineering from Virginia Tech. Her research interests include access to higher education, broadening participation in engineering, the integration of engineering education and international development, and building capacity in low and middle income countries through inclusive technical education.

Ms. Karis Boyd-Sinkler, Virginia Tech

Karis Boyd-Sinkler is a doctoral student in Engineering Education at Virginia Tech. She also serves as support staff for the Center for the Enhancement of Engineering Diversity where she is involved in the recruitment, outreach, and retention of engineering students. Her research interests include diversity in engineering and the role of engineering student support centers in regards to student attrition and persistence rates. Ms. Boyd received her B.S. in Engineering Science from the University of Virginia in 2014.

Susan Arnold-Christian, Virginia Tech

Susan Arnold Christian currently serves at the Assistant Director for the Center for the Enhancement of Engineering Diversity (CEED) at Virginia Tech in Blacksburg, VA. Prior to joining Virginia Tech in September of 2010, she served as the Outreach Program Coordinator for the Women in Engineering & Science Program at Kansas State University. She began her work in STEM outreach and student support at Girls to Women, a private not for profit in Kansas City, in the late 90’s. She earned her M.S. in Youth Development from the University of Nebraska and her B.S. in Family Studies at Kansas State University.

Dr. Walter C. Lee, Virginia Tech

Dr. Walter Lee is an assistant professor in the Department of Engineering Education and the assistant director for research in the Center for the Enhancement of Engineering Diversity (CEED), both at Virginia Tech. His research interests include co-curricular support, student success and retention, and diversity in science, technology, engineering, and mathematics (STEM). Lee received his Ph.D in engineering education from Virginia Tech, his M.S. in industrial & systems engineering from Virginia Tech, and his B.S. in industrial engineering from Clemson University.

Dr. Bevlee A. Watford, Virginia Tech

Watford is Professor of Engineering Education, Associate Dean for Academic Affairs and Director of the Center for the Enhancement of Engineering Diversity. She is currently President of ASEE.

Dr. Christian Matheis, Virginia Tech

I concurrently serve as Visiting Assistant Professor in the School of Public and International Affairs, and as Director of the Graduate School Office of Recruitment and Diversity Initiatives at Virginia Tech. My research specializations include ethics, political philosophy, and philosophy of liberation. Within these areas, I concentrate on public policy, feminism, race, migration and refugees, and similar topics.

Dr. Kim Lester, Virginia Tech

Dr. Lester serves as the Coordinator of Pre-College Programs at Virginia Tech’s Center for the Enhancement of Engineering Diversity. She holds a Bachelor of Science in Animal Science and a Doctor of Veterinary Medicine degree from Cornell University as well as a Bachelor of Arts in Elementary Education from the College of Santa Fe.

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Overview

Program Overview

Cross-Cultural Communication

Future Work

Module 1: Communication and Conflict (1st Year Course)

Module 2: Identity and Culture (1st Year Course)

Module 3: Ethics and Diversity (2nd Year Course)

Module 4: Privilege, Equity, and Discrimination (2nd Year Course)

Module 5: Epistemologies of Inclusion (Leadership Team)

Spring 2018

Fall 2018
Galipatia Program Stakeholders

- CEED Office, Virginia Tech
- Families of Students
- Public
- Students
- Industry Partners
- Community Partners
- Office of Diversity and Inclusion, Virginia Tech
- College of Engineering, Virginia Tech
GALIPATIA PROGRAM

**Inputs**
- Funding
- Staff
- Volunteers
- Partners
- Equipment
- Research

**Outputs**
- Living/learning community
- Mentoring
- First-year seminar course

**Who we reach**
- First-year engineering students
- Under-represented students in engineering

**Outcomes**

**Short term**
- Motivation to persist in engineering degree

**Long term**
- Persistence
- Higher GPAs
- Engineering career goals
Galipatia Theory of Change Model

Students’ academic motivation linked to

Stronger identification with engineering community

linked to

Higher GPAs

linked to

Persistence in engineering majors

linked to

Engineering career goals
Holistic Engineering Formation

In simplest terms, it is a more cross-disciplinary, whole-systems approach to engineering that emphasizes contextualized problem formulation, the ability to lead team-centered projects, the skill to communicate across disciplines, and the desire for life-long learning of the engineering craft in a rapidly changing world.

Grasso and Burkins (2010)
Conceptual Frameworks

**Human Relations Theory**
(Follett, 1924; Law, 2000)
- Emphasizes ways that power and authority influence relationships
- Based on building social insight (i.e. social imagination)
- Creates criteria for co-active/co-affective power dynamics

**Social Justice Ally Identity Development Model**
(Edwards, 2006)
- Aspiring ally for self interest, altruism, or social justice

**Multicultural Competence Theory**
(Pope, Reynolds, & Mueller, 2004)
- Multicultural awareness, knowledge, and skills

**Human Relations Facilitation/Intergroup Dialogue**
(Matheis & VTInterCom, 2015, Farrell et al, 2017)
- Strategies for reducing barriers to communication
- Aims to build capacity of participants to communicate about complicated topics

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Workshop Timeline

Module 1: Communication and Conflict (1st Year Course)

Module 2: Identity and Culture (1st Year Course)

Module 3: Ethics and Diversity (2nd Year Course)

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Fall 2016
Spring 2017
Fall 2017
Spring 2018
Fall 2018
Pedagogical Approaches

Facilitation
  (Insight, discourse/dialogue, relationships)

Instruction
  (knowledge, beliefs, values)

Training
  (compliance, behaviors, skills)

Topics

Format

Pedagogies of Social Change

Intensity

(Matheis & VTInterCom, 2015)
Module 1: Communication and Conflict

(Matheis & VTInterCom, 2015)
Module 2: Identity and Culture

(Matheis & VTInterCom, 2015)
Module 3: Ethics and Diversity

Thinking
The Null Curriculum
The Fallacy of Confirming Instances

Believing
Three paradigms of diversity
(The Golden Rule, Right the Wrongs, Value Differences)

Knowing
Cherry Picking
The principle of charity

(Mattheis & VTInterCom, 2015)
Module 4: Conscientious Conversations

“Civility” (rules, etiquette)

• Rooted in narrow cultural norms
• Obedience behaviors
• Can labeling critical discourse as “incivility”
• Often benefits those with authority
• A state of inactivity

“Conscientious” (practices of relation)

• Attention to behavior, emotions, topics, etc.
• Engaged reasoning
• Intended to build awareness
• Activity, Interaction

(Mattheis & VTInterCom, 2015)
Future Work

This work is part of ongoing work to broaden participation in engineering and engage students in diversity and inclusion efforts.
Questions?

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[Insert contact name here]