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,

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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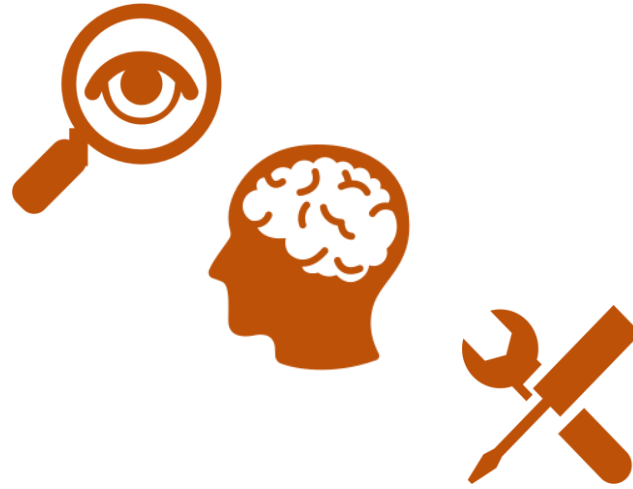Susan Arnold-Christian, Karis Boyd-Sinkler, Walter Lee, Kim Lester, Christian Matheis, Ashley Taylor, Bevlee Watford

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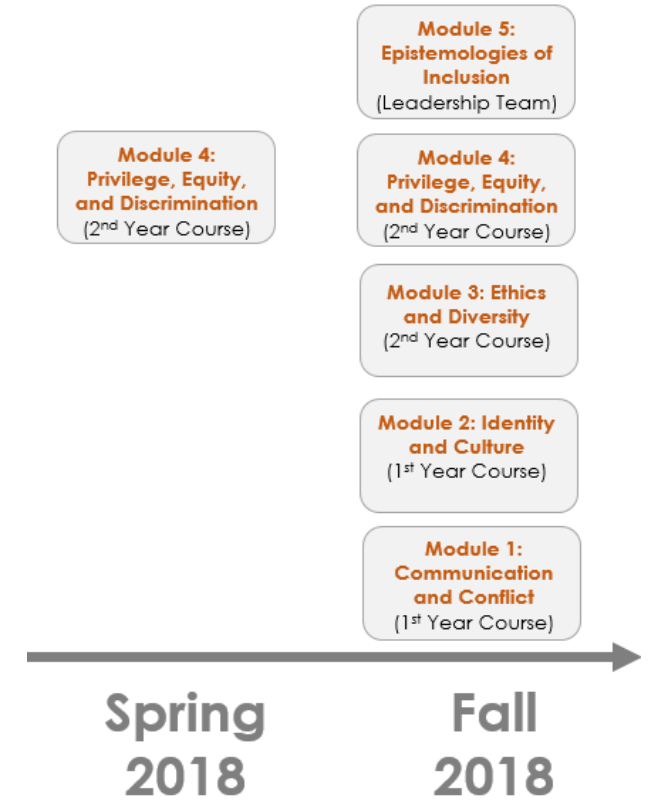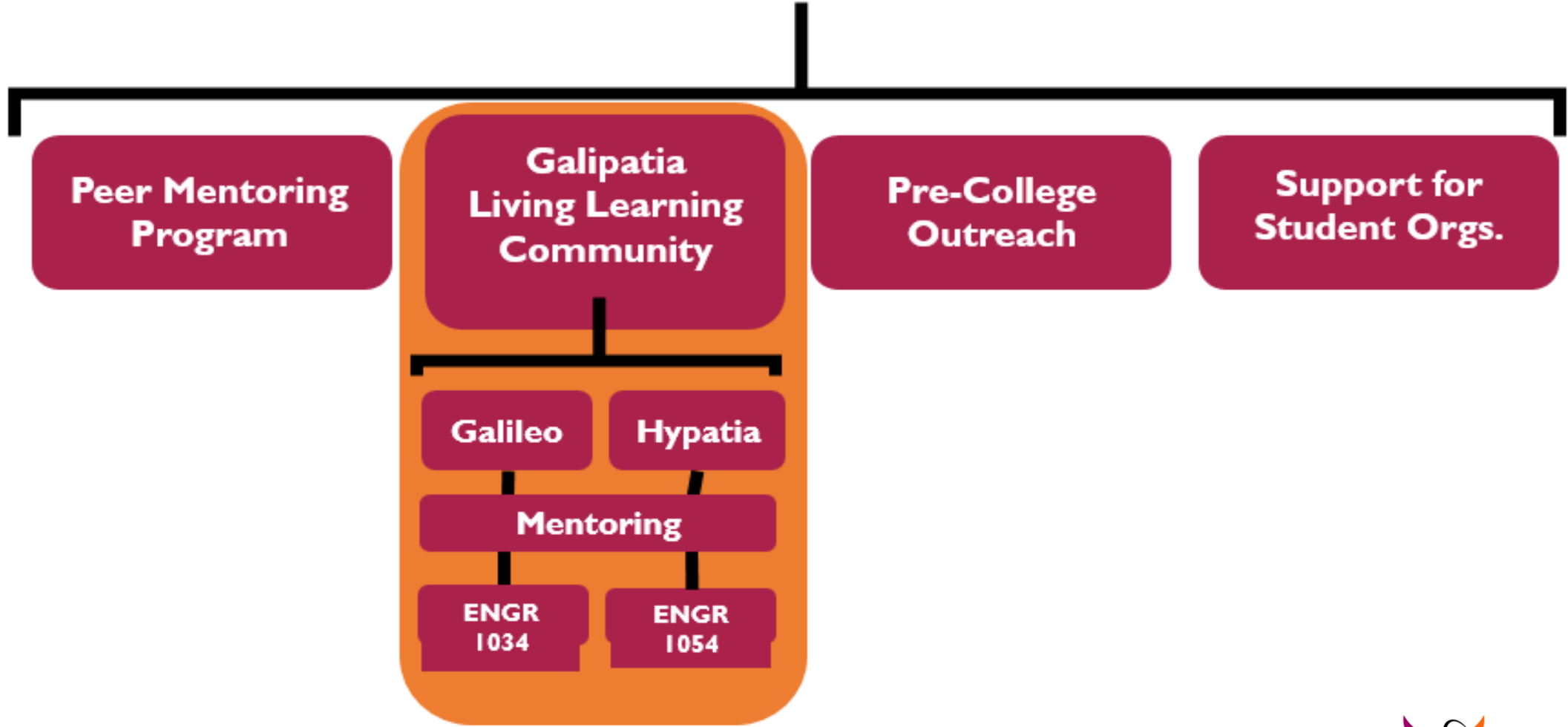DEPARTMENT OF ENGINEERING EDUCATION

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CEED Growing Diversity at VT

Overview

Program Overview

Cross-Cultural Communication

Module 5: Epistemologies of Inclusion (Leadership Team)

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

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

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

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

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

Spring 2018

Fall 2018

Future Work

CEED — Growing Diversity at VT

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GALIPATIA PROGRAM

Inputs	Outputs		Outcomes	
What we invest	**What we do**	**Who we reach**	**Short term**	**Long term**
• Funding • Staff • Volunteers • Partners • Equipment • Research	• Living/learning community • Mentoring • First-year seminar course	• First year engineering students • Under-represented students in engineering	• Motivation to persist in engineering degree	• 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

Stronger identification with engineering community → linked to → Persistence in engineering majors

Stronger identification with engineering community → linked to → Engineering career goals
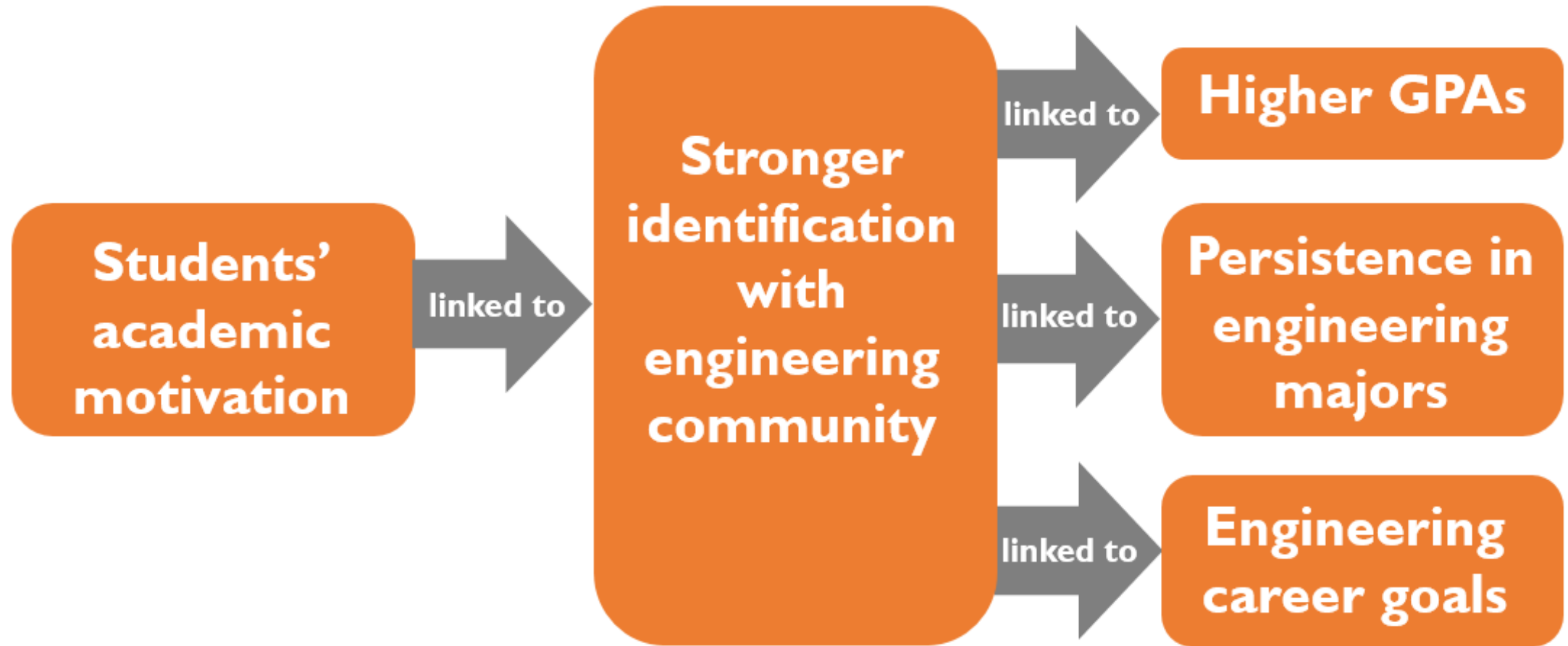
Holistic Engineering Formation

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

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

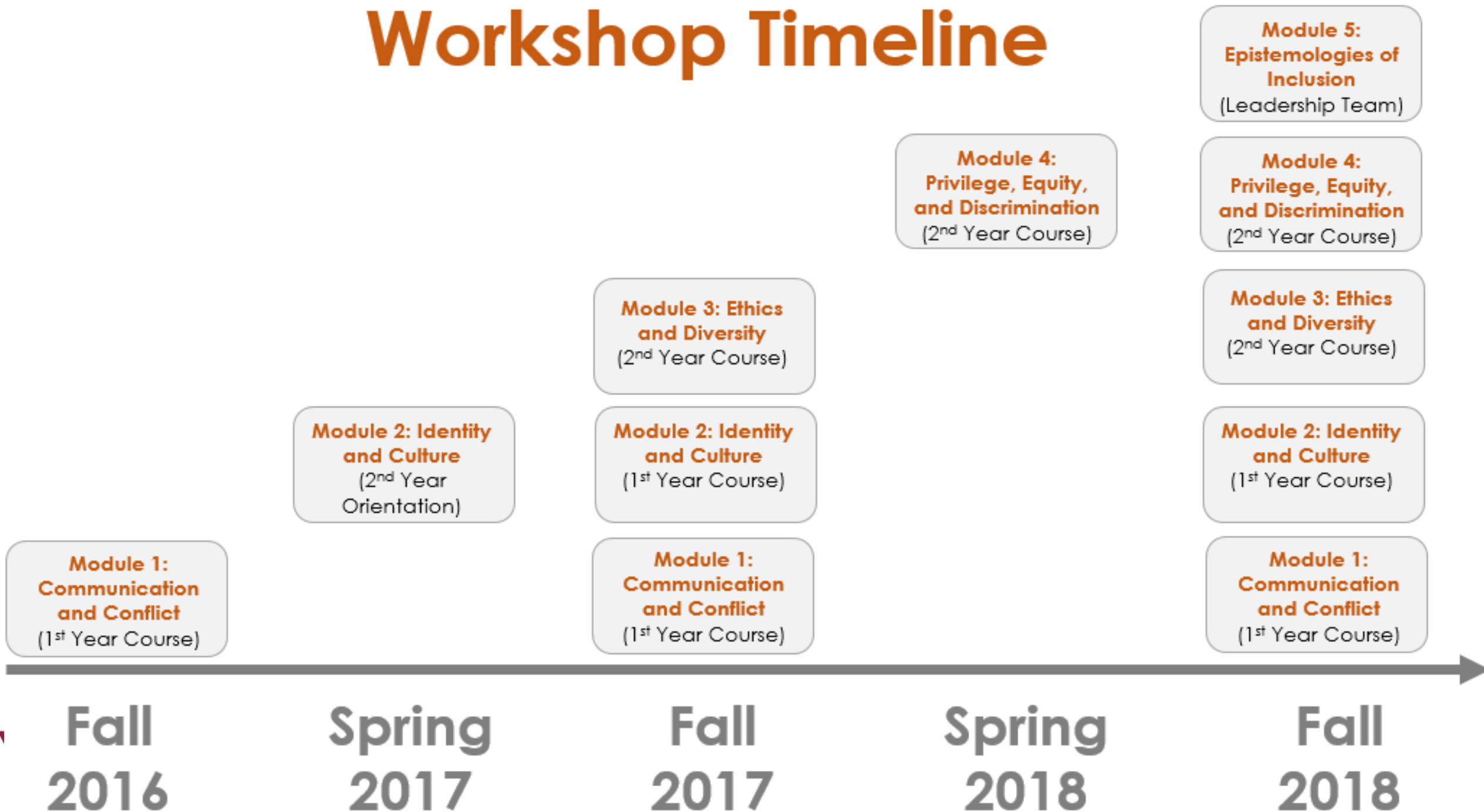**Social Justice Ally Identity Development Model**
(Edwards, 2006)

- Aspiring ally for self interest, altruism, or social justice

Multicultural Competence Theory
(Pope, Reynolds, & Mueller, 2004)

- Multicultural awareness, knowledge, and skills

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Workshop Timeline

Module 5: Epistemologies of Inclusion (Leadership Team)

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

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

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

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

Module 2: Identity and Culture (2nd Year Orientation)

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

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

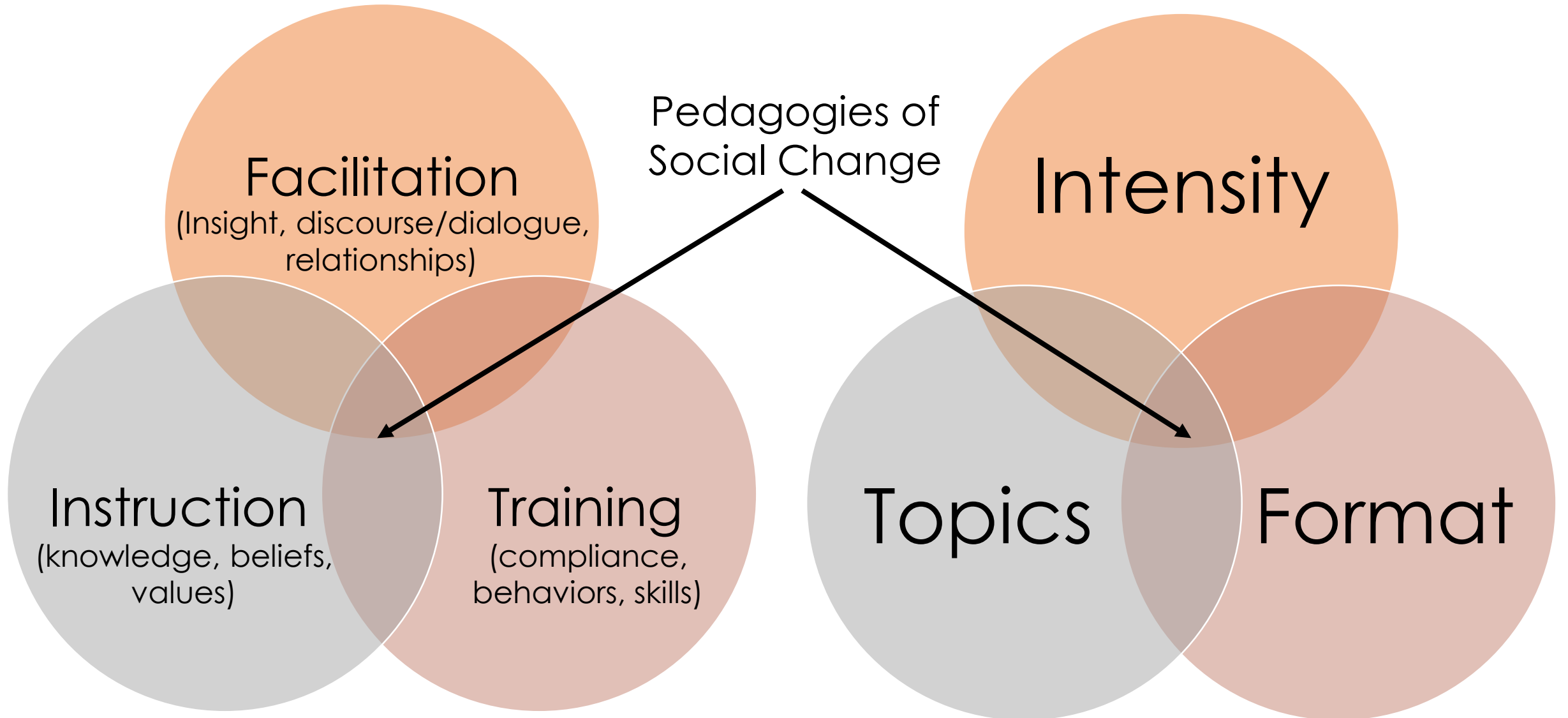**Module 1: Communication and Conflict** (1st Year Course)

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

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

Fall 2016   Spring 2017   Fall 2017   Spring 2018   Fall 2018

Pedagogical Approaches

Facilitation (Insight, discourse/dialogue, relationships)

Pedagogies of Social Change

Intensity

Instruction (knowledge, beliefs, values)

Training (compliance, behaviors, skills)

Topics
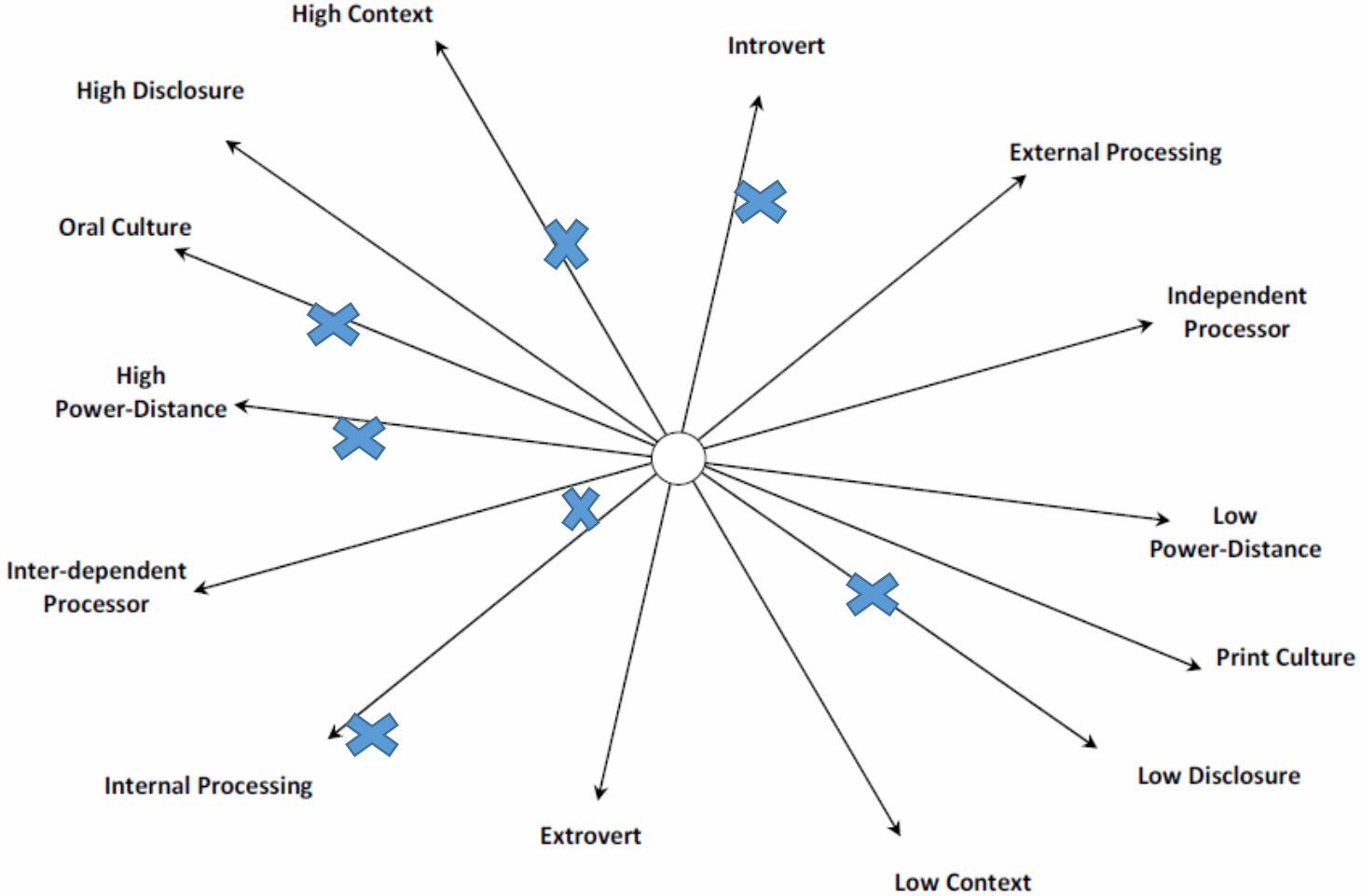
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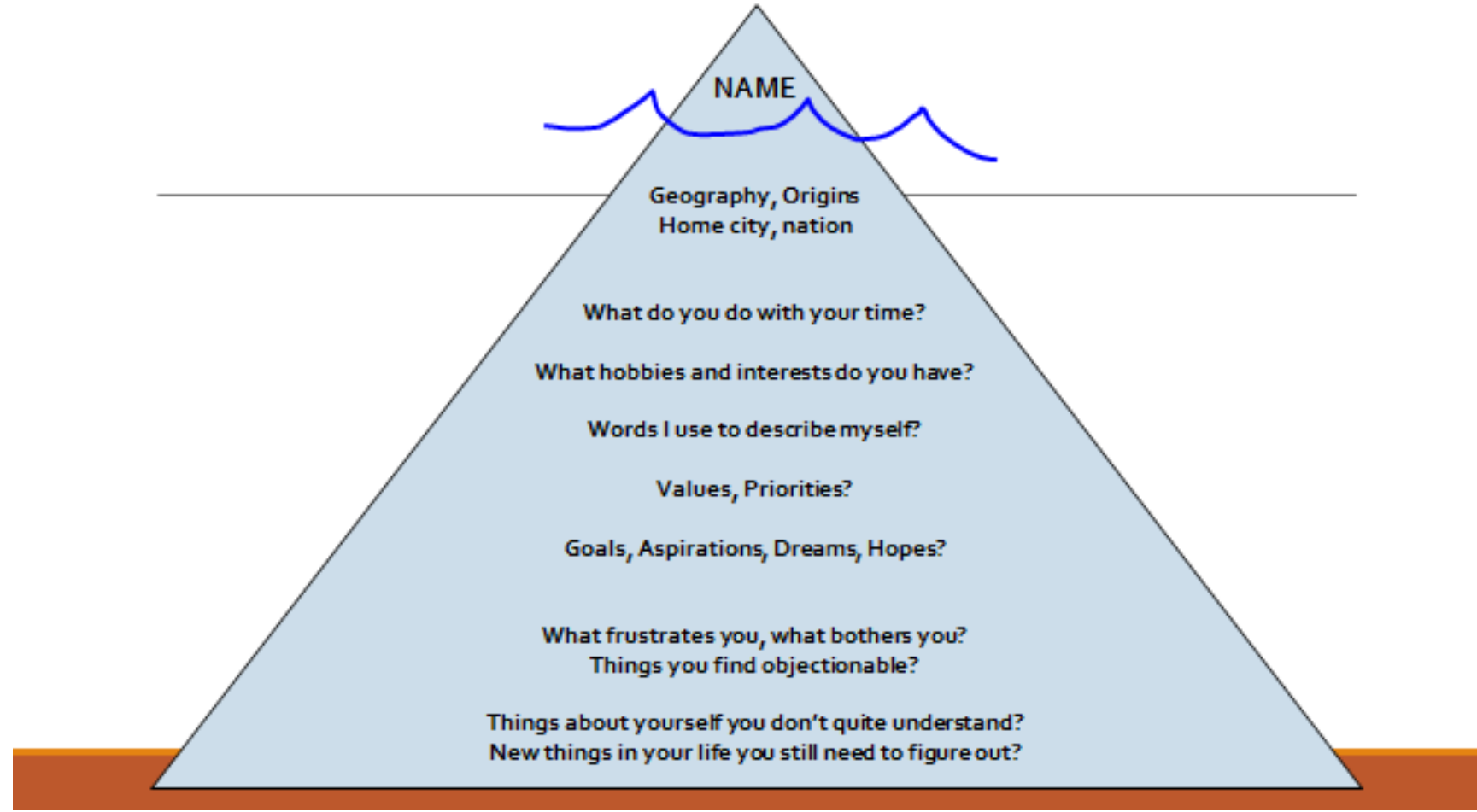
(Matheis & VTInterCom, 2015)

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Module 1: Communication and Conflict

(Matheis & VTInterCom, 2015)

Module 2: Identity and Culture

NAME

Geography, Origins
Home city, nation

What do you do with your time?

What hobbies and interests do you have?

Words I use to describe myself?

Values, Priorities?

Goals, Aspirations, Dreams, Hopes?

What frustrates you, what bothers you?
Things you find objectionable?

Things about yourself you don't quite understand?
New things in your life you still need to figure out?

(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

(Matheis & VTInterCom, 2015)

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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

Created by Kirill Kolchenko
from Noun Project

(Matheis & VTInterCom, 2015)

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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]