The Department of Engineering Education
Engineering for Nation Building: Piloting a Framework for Operationalizing Tribal Sovereignty in Engineering Education Research

(WORK IN PROGRESS)

**Background**

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<th>NEED</th>
<th>Tribes have articulated a need for a new generation of engineers to assist with Native nation building</th>
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<td>&quot;For the first time, we [a Tribal College] are producing students who can advise the State and Federal governments, and our students are becoming knowledgeable enough to oppose them with evidence-based research, when necessary to maintain tribal sovereignty.&quot; (Kant et al., 2015)</td>
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Existing engineering education pathways have remained closed to many AI/AN students

| REALITY |
| Undergraduate Engineering Degrees Awarded to AI/AN Students |

Source: U.S. Dept. of Education, National Center for Education Statistics

**Research Overview**

Using existing data, can we pilot a qualitative framework that operationalizes tribal sovereignty within engineering education research?

"the definition of sovereignty covers a multitude of sins, having lost its political moorings, and now is adrift on the currents of individual fancy." (Deloria, Jr., 1998)

**Provisional Codes**

Tribal sovereignty is expressed through actions or strategies in engineering that...

- **EXISTENCE**
  - defend or promote an aspect of the tribe's independence or cultural integrity

- **INTERNAL**
  - deal exclusively with tribal citizens and/or institutions

- **LEGAL-POLITICAL**
  - arise from factors in the legal-political domain

- **CONTINUANCE**
  - project the tribe's autonomy or cultural integrity into a future setting

- **EXTERNAL**
  - deal in whole or in part with persons and/or institutions external to the tribe

- **ORGANIC**
  - arise from factors outside the legal-political domain

**Looking Ahead**

How can tribal colleges grow the capacity to sustain an engineering department?

What does a "sovereign" engineering undergraduate program look like?

Development of a quantitative instrument to evaluate tribal sovereignty