Guiding Engineering Work with Social Context - Knowledge Strategy Development

***Assignment Introduction***

In the lecture, we discussed the necessity of values and beliefs on a personal, communal and professional level. These values and beliefs were shown to vary from place to place. The OECD global priority survey showed us for example that Brazilian respondents prioritize education while the Indian respondents value life satisfaction most. Personal values influence our engineering work, and our own values may be in conflict with the beneficiaries of our engineering project. So, engineers should become familiarized with the process of identifying values, beliefs and priorities.

In this assignment, you will identify and discuss some of your own values and priorities in the *self-reflection* section, and become familiar with the values of Indigenous people affected by your engineering work through the development of a *knowledge strategy document*.

***Learning Outcomes***

After the completion of the assignment and accompanying lecture, you will be able to:

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| --- | --- | --- |
| Knowledge | Skills | Attitudes |
| -Critique personal, local and professional enforcement of colonial priorities across cultural boundaries  -Defend Indigenous legal and social authority in the consultation process  -Produce a strategy to champion Indigenous values and knowledge in an engineering project (purpose, preparations, research and knowledge gaps) | -Use the The Aboriginal and Treaty Rights Information System (ATRIS) system to access local consultation considerations.  -Articulate the connection between personal, communal and professional values  -Identify intercultural knowledge gaps | -Relate engineering practice to its local context through the practice of epistemic equality  -Act transparently when outlining the purpose and knowledge gaps when creating a knowledge strategy document |

***Assignment Deliverable***

The deliverable for this assignment is a PDF document containing your responses to the self-reflection section followed by the three page knowledge strategy. See the details below.

***Self-Reflection:***

1. Consider the value scales i), ii) and iii) below. Mark a symbol along the each of the sliding scales, with proximity to one side denoting increased importance to that value or trait:
   1. What value is more important to you? Please mark the importance with an x
   2. What value do you believe is more important to the people in your local community (town or city)? Please mark the importance with a circle
   3. What value do you believe is more important to professional engineers in British Columbia? Please mark the importance with a triangle
   4. Optional: Compare your responses for b) and c) with a classmate. If your responses are different, discuss how your interpretation of local and professional ways of knowing affect your decision making.

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| --- | --- | --- | --- |
| eg) | **Straightforward**  Being direct and outspoken |  | **Tactful**  Consideration in dealing with others and avoiding giving offense |
| i) | **Community**  The quality of your social support network |  | **Education**  Your education and what you get out of it |
| ii) | **Protection of the environment**  Conservation and stewardship toward nature at large |  | **Health and Safety**  Conservation and stewardship of personal health |
| iii) | **Meritocracy**  Opportunity for those who are deserving |  | **Democracy**  Opportunity for all |

1. Answer the following questions, each in less than three sentences:
   1. Is a particular value priority universally self-evident? For example, can you empirically justify valuing community over education?
   2. Have you ever experienced “culture shock” when integrating into a group with different values? How was the transition? For example, during integration into UBC’s academic culture.
   3. How can an engineer understand and incorporate appropriate local values in their work?

***Knowledge Strategy Writing***

Draft a 3 page (12 pt. font, double spaced) knowledge strategy for an Indigenous community or business local to your project. Compilation of this information will provide you with the baseline understanding of community necessary to begin respectful engagement. The knowledge strategy will include the following sections:

**i) Purpose:** What do you want to achieve with the people, businesses or communities you want to engage?

**ii) Preparations:** What does your group/business need to do in order to get ready for these engagements and relationships? What group values are important to highlight and discuss during your first meeting?

**iii) Research:** Acquire some background knowledge of **three features** of the community or business, such as

* Community History
* Community Profiles & Statistics
* Traditional activities (fishing, hunting and gathering)
* Spiritual practices
* Governance (tribal affiliations, hereditary leaders, band council)
* Community priorities
* Ways of knowing

**iv) Knowledge gaps:** Prepare at least **five questions** to ask a community representative, to strengthen

* intercultural dialogue and engagement
* understanding of social context including understanding the community’s values and ways of conducting business
* your group’s ability to design while considering social impact

***Guiding questions for success***

* How does knowledge strategy development relate to the assignment learning outcomes?
* Are you aware of your personal, local and professional values, and how they guide your decision making process?
* What important knowledge are you missing in your community research? How would you plan on gathering that information in a full-scale engineering project?

***Useful Research Resources***

The following links may be useful to begin your research:

Treaty Information: [Aboriginal and Treaty Rights Information System](https://www.aadnc-aandc.gc.ca/eng/1100100014686/1100100014687)

First Nations Profiles: [First Nation Profiles Interactive Map](https://geo.aadnc-aandc.gc.ca/cippn-fnpim/index-eng.html)

Indigenous Self-Government: [Self-Government Overview](https://www.rcaanc-cirnac.gc.ca/eng/1100100032275/1529354547314)

Territory maps according to Indigenous nations themselves: [Native Land](https://native-land.ca/)

Indigenous Languages Dictionary: [First Voices](https://www.firstvoices.com/content/get-started)

Engagement Process: [Canadian Construction Association Indigenous Engagement Guide](https://www.cca-acc.com/wp-content/uploads/2016/03/IndigenousEngagementGuide.pdf)

Indigenous Businesses in Canada: [Indigenous Business Guide](https://www.sac-isc.gc.ca/REA-IBD/eng/reset)

These resources should be supplemented with community specific sources as well, such as community websites and colleagues who have worked with or consulted with communities in the area.