

## *CURRICULUM DEVELOPMENT:*

### *SUSTAINABLE HOME DESIGN AND CARE*

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#### **1. Different Types of Housing**

Exploring Aboriginal Homes and Architecture

<https://thecanadianencyclopedia.ca/en/article/architectural-history-early-first-nations>

Aboriginal Architecture Living Architecture

<http://onf-nfb.gc.ca/en/our-collection/?idfilm=51487>

\*\*NOTE: This resource is from the Canadian Encyclopedia. While it has maps and examples of historical and modern indigenous architecture, it would be much more effective to have a resource that is from an Indigenous outlet.

New Architecture on Indigenous Lands by Joy Malnar and Frank Vodvarka

<https://www.upress.umn.edu/book-division/books/new-architecture-on-indigenous-lands>

#### **2. Housing Design Principle**

New Architecture on Indigenous Lands by Joy Malnar and Frank Vodvarka

<https://www.upress.umn.edu/book-division/books/new-architecture-on-indigenous-lands>

Center for American Indian Research and Native Studies – Evaluating Philosophy

<https://www.nativecairns.org/CAIRNS/Evaluating.html>

Four Case studies Exemplifying Best Practices in Architectural Co-Design and Building with First Nations

<https://raic.org/raic/four-case-studies-exemplifying-best-practices-architectural-co-design-and-building-first>

#### **3. Sustainable Housing**

Reclaiming the Honorable Harvest by Dr. Robin W. Kimmerer

<https://www.youtube.com/watch?v=Lz1vgfZ3etE&t=39s>

Sustainable Housing – Teachers Edition

<http://stelr.org.au/wp-content/uploads/2018/05/Sustainable-Housing-Booklet-Teacher-Edition.pdf>

#### **4. Passive Housing**

Passive Solar Design Guidance

[https://greenpassivesolar.com/wp-content/uploads/2014/07/nz\\_passive\\_solar\\_guide\\_2008.pdf](https://greenpassivesolar.com/wp-content/uploads/2014/07/nz_passive_solar_guide_2008.pdf)

Passive Design Toolkit for Home – Vancouver

<https://vancouver.ca/files/cov/passive-home-design.pdf>

#### **5. Housing Maintenance Practices**

\*\*NOTE: I would like to ask the advice of Interior Design professors at U of M on teaching material for this subject

*CURRICULUM STREAM GOAL:*

**Specific Learning Objective(s): Include an estimate of theory and practical instructional hours for each objective:**

Topic	Learning Objectives	Theory/ Practical	Hours
<b>Architecture and Design</b>			5+
Different Types of Housing	Students will learn about both historical and modern types of Indigenous dwellings.	Theory	1
Housing Design Principle	Students will explore traditional architecture and design philosophy through literature, case studies and design exercises (studio). In addition, this course looks at how community led design plays an important role in the creation of culturally meaningful design solutions	Theory/ Practical	4+
<b>Sustainability and Resiliency</b>			4+/-
Sustainable Housing	Students learn how to design functional, efficient and resilient homes through a combination of traditional knowledge and modern solutions.	Theory	1.5
Passive Housing	Students will learn Passive House design principles and strategies that utilize daylight, shading, natural ventilation and building form to maintain thermal and visual comfort.	Theory	1.5
Housing Maintenance Practices	Students will learn how to select materials that are long lasting and contribute to a healthy environment during installation and over time including cleanability, repair and durability.	Theory	1

**Key Point(s): Include an estimate of theory and practical instructional hours for each Key Point:**

Topic	Learning Objectives	Theory/ Practical	Hours
<b>Architecture and Design</b>			5+
Different Types of Housing		Theory	1

Housing Design Principle	<ul style="list-style-type: none"> <li>• Four Dimensions of Indigenous Design</li> <li>• Form Determinates</li> <li>• Community Led Design</li> </ul>	Theory/ Practical	4+
<b>Sustainability and Resiliency</b>			4+/-
Sustainable Housing	<ul style="list-style-type: none"> <li>• The Honourable Harvest</li> <li>• Reciprocity</li> <li>• Energy, Water, Air</li> <li>• Materials</li> <li>• Building Forms</li> <li>• Wellness</li> </ul>	Theory	1.5
Passive Housing	<ul style="list-style-type: none"> <li>• Site, climate and building design</li> <li>• Daylighting</li> <li>• Shading</li> <li>• Thermal mass</li> <li>• Natural ventilation</li> <li>• Window systems</li> </ul>	Theory	1.5
Housing Maintenance Practices	<ul style="list-style-type: none"> <li>• Life-Cycle Analysis</li> <li>• VOCs/Off Gassing</li> <li>• Safety Sheets</li> </ul>	Theory	1

**COMMENTS:**

- Combined “housing design principles” and “culturally appropriate Housing Design Principles” – all principles must be appropriate even if it is not typical in current post-secondary design curriculum that exists.
- I suggest one large studio project for the Architecture and Design Courses – maybe a part of the practicum.
- Design principles are taught best through creative exploration, trial and error. It requires the students to work together as well as in their community, while gaining confidence and developing their own design language. Studios require a lot of hands on work and thrives on peer and teach review.
- Sustainability, Passive and Maintenance Courses would require students to select finishes and material for their studio project or practicum though a process that requires them to consider not only the dollar cost of a product but its maintenance, durability, life-cycle analysis, environmental impact, health implications and cleanability.