**LBHC Certificate in Building Trades**

Program Learning Outcomes Curriculum Map and Plan[[1]](#footnote-1)

Updated 06.27.2024

| Program learning outcomes: *Graduates should be able to…* | CA 085 or 101 (writing)  | MA111(math) | CA 112 (speaking)  | BT 130(bldg main) | BT 133(carp) | PLUM 191-11\*(plumb)  | BT 138(Autodesk Revit) | BT135(home impr) | BT 137(HVAC) | ELT 191-11\*(wiring) | TRD100(OSHA) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Explain safety procedures for use and handling of equipment.
 |  |  |  | R | I | R |  | A[[2]](#footnote-2)(2023-24) | R | R | R |
| 1. Demonstrate carpentry skills required to frame floors, walls, roofing, and siding.
 |  |  |  | I | R |  |  | A[[3]](#footnote-3)(2025-26) |  |  |  |
| 1. Apply construction math to complete basic construction projects.
 |  | I/A[[4]](#footnote-4)(2027-28) |  |  | R | R |  | R | R |  |  |
| 1. Communicate with others using industry-appropriate terminology.
 | I | R | R | R | R |  | R | A[[5]](#footnote-5)(2028-29) | R |  |  |
| 1. Use computer aided drafting software at a basic level.
 |  |  |  |  |  |  | I/A[[6]](#footnote-6)(2024-25) |  |  |  |  |
| 1. Demonstrate basic HVAC skills.
 |  |  |  |  |  |  |  |  | I/A[[7]](#footnote-7)(2023-24) |  |  |
| 1. Demonstrate basic electrical skills.
 |  |  |  |  |  |  |  |  |  | I/A[[8]](#footnote-8)(2030-31) |  |
| 1. Demonstrate basic plumbing skills
 |  |  |  |  |  | I/A[[9]](#footnote-9)(2031-32) |  |  |  |  |  |

An asterisk (\*) indicates plumbing and electrical courses offered in Billings as part of the MSU-Northern accelerated apprenticeship education program.

1. Only courses that are a part of the main program of study requirements should be listed on the first row. Courses that are not required for only this program are excluded from the list of courses (e.g., exclude general education core requirements). I, R, and A indicate the main program of study requirements – courses in which each program learning outcome is introduced (I), reinforced (R), and formally assessed (A). There should only be one formal assessment (A) in each row and the year of assessment should be noted. Not every cell in every row needs to be filled in; however, each listed course should have at least one letter – either an I, R, or A in its column. This document was created and reviewed by Robert, Tim, and Berthina. [↑](#footnote-ref-1)
2. Program learning outcome 1 is assessed in BT 135 (home improvement) in demonstrations. [↑](#footnote-ref-2)
3. Program learning outcome 2 is assessed in BT 135 (home improvement) in demonstrations. [↑](#footnote-ref-3)
4. Program learning outcome 3 is assessed in MA 111 (construction math) in the assignments, exams, projects. [↑](#footnote-ref-4)
5. Program learning outcome 4 is assessed in BT 135 (home improvement) in demonstrations. [↑](#footnote-ref-5)
6. Program learning outcome 5 is assessed in BT 138 (design revit) in assignments, exams, and projects. [↑](#footnote-ref-6)
7. Program learning outcome 6 is assessed in BT 137 (HVAC) in demonstrations. [↑](#footnote-ref-7)
8. Program learning outcome 7 is assessed in ELT 191-11\* (wiring) in assignments, exams, and projects. [↑](#footnote-ref-8)
9. Program learning outcome 8 is assessed in PLUM 191-11\* (plumbing) in assignments, exams, and projects. [↑](#footnote-ref-9)