

NRGY 235: Building Energy Efficiency

Week 3 Quiz



1. Which of the following is the current residential energy code that is enforced by Jurisdictions Having Authority (JHD) in Montana:
 - a) International Energy Conservation Code 2012
 - b) IECC 2009
 - c) ASHRAE 9000-2
 - d) Montana Residential Energy Efficiency Code 1998
2. American Society of Heating, Refrigeration, and Air-conditioning Engineers standards 90.1/90.2 are what?
 - a) Safety codes enforced by OSHA that have to do with working around HVAC equipment
 - b) Energy efficiency standards for commercial and low-rise (multi-family) residential buildings referenced in adopted codes
 - c) Energy efficiency standards for all residential buildings that are referenced in adopted codes
 - d) Standards that specify code-required ventilation rates for buildings of all types
3. In what ASHRAE climate zone is most of Montana?
 - a) 6
 - b) 7
 - c) 3
 - d) 1
4. What is ASHRAE Standard 60.1/60.2
 - a) A building energy efficiency standard that is the basis of many sustainable building rating systems
 - b) A building energy efficiency code that has been adopted by many states in the U.S.
 - c) A standard that specifies appropriate ventilation rates for residential (60.2) and commercial (60.1) buildings, and that is referenced in many building codes for compliance
 - d) A standard regarding efficient lighting that is referenced in building energy codes in many U.S. states
5. Under the Leadership in Energy and Environmental Design (LEED) rating system, what are the different levels of

NRGY 235: Building Energy Efficiency

Week 3 Quiz



- achievement?
- Certified, Silver, Gold, Platinum
 - EUI < 100, EUI < 80, EUI < 60, EUI < 40
 - Acceptable, Good, Excellent, Premium
 - 1, 2, 3, or 4 Green Globes awarded
6. Which of the following is NOT a LEED category under which points can be achieved?
- Sustainable Sites
 - Water Efficiency
 - Regional Priority Credits
 - Utility Purchasing Plan
7. Which of the following statements about HERS ratings is least true/accurate?
- A HERS score of 100 indicates a home that was, approximately, built to comply with current codes
 - The higher the HERS rating number, the more efficient the home
 - Achieving a HERS rating that is below 50 could result in a Federal Tax Credit
 - The primary method of establishing a home's HERS rating is running a model called REM/Rate with inputs that are specific to the home construction and specifications
8. Choose the option below that most likely ranks four residential home in order of least to greatest efficiency, based on achievement of the listed ratings
- ZERH, EnergyStar, PHIUS, HERS = 60
 - HERS = 100, EnergyStar, ZERH, PHIUS
 - EnergyStar, HERS = 60, PHIUS, ZERH
 - PHIUS, EnergyStar, HERS = 20, ZERH
9. What are three important design components of Passive House certified buildings?
- High ventilation rates for excellent IAQ, Photovoltaics, thermally broken envelope
 - High performance HRV or ERV, passive solar gains, thermally bridged windows

NRGY 235: Building Energy Efficiency

Week 3 Quiz



- c) Thermally bridged envelope, double stud wall construction, high efficiency windows and doors
 - d) Optimized passive heat gains, thermal breaks in envelope and windows, very air tight envelopes at ≤ 0.6 ACH50
10. What is true of a building that meets certification on all the Petals of The Living Building Challenge?
- a) Client must write a multi page essay on how little energy their home uses
 - b) The building must harvest most of its water on site
 - c) Client and Designer must write multi page essays on how the building is beautiful to them
 - d) Any material that is on the LBC “red list” can not be used