



## Elective Course: Windows and Their Conservation

**Date:** Saturday, November 7, 2009, 9:00 am – 3:00 pm

**Location:** Flying Angel Club Building, 401 East Waterfront Road, Vancouver

**Instructor:** Jim Stiven, Principal, Vintage Woodworks

### Overview of the Course

Windows often determine the “character” of a building. Since they are frequently altered, the approach to the conservation of windows is an important part of approaching building renovations. How can one balance historic integrity, current functional requirements, aesthetics and energy efficiency? These are some of the topics that this practical course will address—**Windows: Design, Construction, Conservation and Maintenance**. This course will focus on wooden windows and it will be of specific interest to building contractors, renovators, planners, architects, engineers, interior designers, building managers and inspectors, realtors, local government staff and homeowners.

### Learning Objectives

This technical course offers the opportunity to:

- Become more familiar with historic windows, their technology and design
- Recognize the challenges of balancing a window’s aesthetic and historic integrity, its contemporary use, the conservation options, the benefits of natural ventilation and thermal performance
- A practical analysis of the options which building owners and designers face in up-dating older buildings and balancing the demands of liveability, historical accuracy and energy conservation

### Course Outline—

#### 9:00 – 9:10 am      **Welcome and Introductions**

Key aspects of this course:

- A focus on linking “principles and practice”; illustrating and translating the spirit of the “Standards and Guidelines for the Conservation of Historic Places in Canada” as they relate to the specifics of doors and windows
- A practical analysis of the options which building owners and designers face in up-dating older buildings and balancing the demands of liveability, historical accuracy, maintenance and energy conservation

#### 9:10 – 10:00 am      **Types of Windows, their function and parts**

- A windows’ function: light, air weather.
- Types of windows and doors
- Terminology of window and their components
- Common materials—wood, metal and vinyl
- Glazing historic glass, single glazed double glazed
- Aesthetic and decorative features

- Glazing, putty
- Sourcing parts; new materials

**10:00 – 10:15 am      Break**

**10:15 am – 11:15 am    Overview of Window Repair**

- Inspections—what clues to look for? Dismantling a sample window
- Research and documentation
- Wood, varieties and benefits
- Repairing elements
- Cosmetic repair
- Types of paint, painting,

**11:15 – 12:00 pm                      Restore, Repair or Replace a Window?**

- Repair vs. replacement
- Maintenance considerations
- Choice of materials
- Do it yourself or hire an expert?

**12:00 pm - 12:30 pm                  Lunch**

**12:30 – 1:00 pm                      Walkabout and Examination of the Windows at the Mission to Seafarers Building**

**1:00 – 1:30 pm                        Group discussion regarding recommendations for the Mission to Seafarers Building**

**1:30 – 2:45pm                        Balancing Historic Integrity, Aesthetics, Thermal Efficiency and Functional Requirements for Windows as Part of a Heritage Conservation Project**

- Energy efficiency
- Thermal performance
- Windows with “Green” building materials
- Cost and life cycle considerations
- Combining potentially competing interests with the spirit of the “Standards and Guidelines for the Conservation of Historic Places in Canada” as they relate windows

**2:45- 3:00 pm                        Questions and Discussion; Concluding Discussion and Course Evaluations**

## **Recommended Reference Materials for the Course**

“ABC’s of Windows”, Ottawa: Canada Mortgage and Housing Corporation, Revised Edition, 2004, 6pp.

“Before You Start Window and Door Renovations”, Ottawa: Canada Mortgage and Housing Corporation, Revised Edition, 2005, 8 pp.

“Understanding Windows Terminology”. Ottawa: Canada Mortgage and Housing Corporation, 2001, 6pp.

“Improving Window Energy Efficiency: Why Should I Worry About My Windows?”, Natural Resources Canada, 2007, 11p. ISBN 9780662454427

Fram, Mark. *Well-Preserved: the Ontario Heritage Foundation's Manual of Principles and Practice for Architectural Conservation*. Erin, Ont.: The Boston Mills Press for the Ontario Heritage Foundation, Third revised edition, 2003.

Murphy, Bill. "Your Old House: Wood Windows", Jointly published by the Victoria Heritage Foundation, the Vancouver Heritage Foundation and Heritage BC, 2000. Download from: [www.vancouverheritagefoundation.org](http://www.vancouverheritagefoundation.org)

Myers, John H. *The Repair of Historic Wooden Windows*. Preservation Brief no. 9. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1981. <http://www2.cr.nps.gov/tps/briefs/brief09.htm>

Sims, Craig and Andrew Powter, "Improving Thermal Performance of Historic Windows", *Heritage Canada*, Volume X, Number 2, Spring 2007, pp. 48-52

Sims, Craig and Andrew Powter, "Maintenance and Repair of Historic Wood Windows", *Heritage Canada*, Volume X, Number 1, Fall/Winter 2007, pp. 50-62.

Sims, Craig and Andrew Powter, "Repair or Replace: Windows in Historic Buildings: Arriving at a Sustainable Solution", *Heritage Canada*, Volume IX, Number 3, Summer 2006, pp. 40-47.

Turner, Susan, D. "Windows in Historic Buildings: Sustainable, Repairable", *Heritage Canada*, Volume IX, Number 2, Spring 2006, pp. 42-44.

## **Additional References**

Fisher, Charles E. III, Deborah Slaton and Rebecca A. Shiffer, eds. *Window Rehabilitation Guide for Historic Buildings*. Washington, D.C.: Historic Preservation Education Foundation, 1997.

London, Mark and Dinu Bumbaru. *Traditional Windows*. Technical guide no. 2. Montreal: Heritage Montréal and Quebec Ministry of Cultural Affairs, 1985. ISBN 2920588095.

Park, Sharon C. *The Repair and Thermal Upgrading of Historic Steel Windows*. Preservation Brief no. 13. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1984. <http://www.nps.gov/history/hps/tps/briefs/brief13.htm>

*Repairing Old and Historic Windows: A Manual for Architects and Homeowners*. Washington, D.C.: Preservation Press and New York Landmarks Conservancy, 1992. ISBN 0891331859.

Sedovic, Walter and Jill H. Gotthelf. "What Replacement Windows Can't Replace: The Real Cost of Removing Historic Windows." *APT Bulletin*, Volume XXXVI, Number 4: pp. 25-30.

Taylor, Dave. *Dave's Top Five Reasons to Conserve Historic Wood Windows*. Architectural Conservation Note no. 11. Toronto: Ontario Ministry of Culture, 1997. <http://www.culture.gov.on.ca/english/culdiv/heritage/conote11.htm>

Vogel, Neal A. and Rolf Achillies. *The Preservation and Repair of Historic Stained and Leaded Glass*. Preservation Brief no. 33. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1993. <http://www.nps.gov/history/hps/tps/briefs/brief33.htm>

*Windows*. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.