# Course Syllabus
## Bristol Bay Campus

<table>
<thead>
<tr>
<th>Term:</th>
<th>Fall 2012</th>
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<tbody>
<tr>
<td>Course Title:</td>
<td>Blower Door Testing for Energy Efficiency</td>
</tr>
<tr>
<td>Dept. &amp; Num:</td>
<td>ENVI F193P</td>
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<tr>
<td>Credits:</td>
<td>1.0</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>none</td>
</tr>
<tr>
<td>Dates:</td>
<td>August 14, 15, 16, 2012</td>
</tr>
<tr>
<td>Days &amp; Times:</td>
<td>Tuesday, Wednesday, Thursday - 8am to 5pm</td>
</tr>
<tr>
<td>Location:</td>
<td>Bristol Bay Campus</td>
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**Instructor:** Dr. Paul Cotter  
**Position:** Adjunct Instructor  
**Office Location:** UAF Bristol Bay Campus  
**Phone:** 907-980-6374  
**Fax:**  
**Email:** paulcotter@acsalaska.net  
**Hours Available:** By Appointment

**Text:** Blower Door Operations and Applications Manual - Provided  
**Supplemental Readings:**  
**Supplies:** Writing utensils, calculator recommended

## Course Description:
This course provides theory and practice of blower door testing of single and multi-family dwellings. Topics include: required equipment, equipment setup and operation, building setup, basic blower door testing, zonal pressure measurement, building tightness limit determination, ventilation requirements, combustion zone safety, worse-case scenario testing, and applications for weatherization of small buildings. This will be a “hands on, brains on” course. Students will be expected to actively participate in all portions of the course.

## Course Goals:
The goal of this course is to develop building evaluation skills and competencies in blower door operation and building diagnostics. It is geared primarily for those currently working in weatherization, residential single or multi-unit construction, or related fields.

## Student Learning Objectives:

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<th>Students Will Be Able To…</th>
<th>Evaluated By…</th>
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<tr>
<td>• Understand and practice appropriate health and safety procedures when conducting building diagnostics</td>
<td>Instructor Observations</td>
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<tr>
<td>• Identify testing requirements for different building configurations</td>
<td>Case studies</td>
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<tr>
<td>• Identify components of a blower door system</td>
<td>Peer review and practical application</td>
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</table>
- Correctly setup and operate blower door system components
  Peer review and practical application

- Determine a building’s air tightness limit
  Case studies and quiz

- Understand theory of basic blower door testing
  Case studies and quiz

- Understand theory of zonal pressure diagnostic procedures
  Case studies

- Calculate minimum ventilation requirements
  Case studies

- Setup, conduct, and interpret a worst case combustion zone pressure test
  Case studies and practical applications

- Interpret pressure testing results and develop a weatherization work plan
  Peer review and case studies

- Prioritize results of pressure testing
  Case studies and practical

**Instructional Methods:**
The course will rely on a variety of teaching methods, including hands-on activities, peer teaching, case studies, lecture, and video.

**Course Calendar:**

<table>
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<tr>
<th>Sessions</th>
<th>Topics To Be Covered</th>
<th>Assignments, Quizzes, Tests</th>
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<tbody>
<tr>
<td><strong>Class 1</strong>&lt;br&gt;Date: 08/14/12&lt;br&gt;No. of Hours: 8</td>
<td>Intro to buildings/construction&lt;br&gt;How buildings function and fail&lt;br&gt;Principles of weatherization&lt;br&gt;Thermal and Pressure boundaries&lt;br&gt;Pressure measurement: why and how&lt;br&gt;Intro to pressure testing equipment&lt;br&gt;Pressure in buildings: Theory</td>
<td>3 quizzes</td>
</tr>
<tr>
<td><strong>Class 2</strong>&lt;br&gt;Date: 08/15/12&lt;br&gt;No. of Hours: 8</td>
<td>Equipment setup and considerations&lt;br&gt;Equipment operation and safety&lt;br&gt;Basic procedures for building testing&lt;br&gt;Basic blower door testing&lt;br&gt;Data collection and interpretation</td>
<td>Assignments/case studies&lt;br&gt;2 quizzes&lt;br&gt;Practical</td>
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<tr>
<td><strong>Class 3</strong>&lt;br&gt;Date: 08/16/12&lt;br&gt;No. of Hours: 8</td>
<td>Building diagnostics for weatherization&lt;br&gt;Advanced pressure diagnostics:Theory&lt;br&gt;Advanced pressure diagnostics:Practical&lt;br&gt;Interpreting advanced diagnostics&lt;br&gt;What does the building need?</td>
<td>Assignments/case studies&lt;br&gt;Practicals&lt;br&gt;Final</td>
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**Course Policies:**
1. UAF requires students to conduct themselves honestly & responsibly, & to respect the rights of others.
2. Attendance is mandatory.
3. Late assignments are not accepted without prior approval of instructor.
4. The instructor reserves the right to amend this course outline as needed.
5. No food or drink allowed in the computer lab.
Final Exam:
Final exam will have multiple components. A practical exam will be given. Students will be required to show competence in equipment setup and operation. There will also be 2 written components: 1 with notes the other without notes.

Evaluation:
A mixed-method evaluation strategy will be used. Pass/fail will be based on scores on assignments, case studies, and assessments. Relative value is presented below. Observation scores will be based on core competencies required for setup, operation, and safe use of equipment. Grades will not be curved.

Breakdown of grading by percentage:
- Assignments/quizzes/tests: 50%
- Case studies: 20%
- Attendance: 10%
- Observations: 20%

Grading Policy:
Pass/Fail
This course will be graded pass/fail. In order to receive a passing grade, participants must receive a 70% or higher grade.

Support & Disability Services:
- University of Alaska Fairbanks
  - Bristol Bay Campus – Student Services
  - PO Box 1070
  - Dillingham, Alaska 99576
  - 907-842-5109
  - 800-478-5109
  - Fax: 907-842-5692

Students can also go to the following websites and/or hotlines for help:
- UAF – [http://www.uaf.edu](http://www.uaf.edu)
- College of Rural & Community Development – [http://www.uaf.edu/rural/](http://www.uaf.edu/rural/)
- Bristol Bay Campus – [http://www.uaf.edu/bbc/index.html](http://www.uaf.edu/bbc/index.html)
- UA Online – [http://uaonline.alaska.edu/](http://uaonline.alaska.edu/)
- Math Hotline – 866-823-6284
- Writing Center – [http://www.alaska.edu/english/studentresources/writing/](http://www.alaska.edu/english/studentresources/writing/)
- Library Services for Off Campus Students – [http://library.uaf.edu/offcampus](http://library.uaf.edu/offcampus)

Disabilities
UAF has a Disability Services office that operates in conjunction with the College of Rural and Community Development campuses and UAF’s Center for Distance Education (CDE). Disability Services, a part of UAF’s Center for Health and Counseling, provides academic accommodations to enrolled students who are identified as being eligible for these services. If you believe you are eligible, please visit [http://www.uaf.edu/disability](http://www.uaf.edu/disability) on the web or contact a student affairs staff person at your nearest local campus. You can also contact Disability Services on the Fairbanks Campus at 907-474-5655, by email at uaf-disabilityservices@alaska.edu.