

**PORTLAND COMMUNITY COLLEGE**  
**BUILDING INSPECTION TECHNOLOGY**  
**PROGRAM REVIEW**  
**OUTCOMES AND ASSESSMENTS**

**2005**

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Division 98, Certification Rules - Internal Draft 4, January 12, 2005

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***INTRODUCTION***

The Building Inspection Technology program at Portland Community College (PCC) started in 1988 with a couple of code classes offered in the evening. The program has grown to eleven (11) “INSP” courses offered year around, an Associate Degree in Building Inspection Technology, an Associate Degree in Building Code Administration, and four (4) One-Year Certificates in Structural Inspection, Mechanical Inspection, Plans Examiner and One- and Two-Family Dwelling Code combination: Structural, Mechanical and Plans Examiner (see [Appendix B](#)).

Other than the loss of the program’s full-time instructor, the program is very healthy. Unduplicated headcount has grown to 132 and FTE to 51 in 2003-2004, the latest data available (see [Appendix H](#)). Enrollment from 2001 - 2004 shows a steady increase in FTE and unduplicated headcount (see [Appendix H](#)). Focus group meetings were held with metro-area Oregon Building Officials (see [Appendix O and P](#)) and with Southwest Washington Building Officials (see [Appendix Q and R](#)). The meetings found the two groups highly support the program, but have different needs for the program to fulfill.

This Program Review required the collection of relevant data: statistics, employment studies, surveys, and focus group evaluation and suggestions. All the background information is organized in [Appendices A - T](#), following the Program Review. The Program Review assesses the current condition of the Building Inspection Program through the information collected and interpretive answers to five basic questions as follows:

- 1) *To improve the quality of teaching and learning by asking faculty, staff, and administrators to reflect upon and examine teaching methodologies, learning outcomes, and curriculum.*
  - A) *Evaluate the curriculum using national and or professional discipline/program guidelines where available.*

The Building Inspection Technology program at Portland Community College (PCC) is currently subject to the Department of Consumer and Business Services, Building Codes Division, Oregon Administrative Rules (see [Appendix A](#)):

**918-098-0420 Education Program Requirements**

- (1) The division shall establish the minimum program requirements for qualifying an education program to meet the certification training requirements of Oregon Administrative Rules 918-098-0070 through 918-098-0240.

(2) Educational institutions shall submit their curriculum to the division for approval. Programs shall be resubmitted for review and approval every three years following initial approval.

(3) Class room and laboratory instructors shall possess an A-level inspector certification issued by the division in the specialty code area being taught, or equivalent.

(4) All class room and laboratory instruction shall be based on the specialty codes adopted by the division or the corresponding model codes for which the certification is sought.

(5) All classes shall be updated with the most recent adopted code changes. Program amendments shall be submitted to the division for review and approval.

(6) The institution shall provide documentation of satisfactory completion and transcripts to each student for submittal with any certification application.

Stat. Auth.: ORS 455.720

Stats. Implemented: ORS 455.720

Hist.: BCD 8-1997, f. & cert. ef. 4-1-97

Referring to Appendix B, Portland Community College's Building Inspection Technology Program meets or exceeds all Oregon Administrative Rules, except: "(2) Programs shall be resubmitted for review and approval every three years following initial approval." The Building Inspection program was last approved in the Spring of 1999 and has not resubmitted for approval.

This could be a significant problem for the program if the State Building Codes Division continued to require certification of college building inspection programs. Fortunately, the State has settled on a course away from State Certification Exams for building inspectors and away from certification of college inspection programs. The State has proposed adopting national certification exams January 1, 2005. It appears the true date may be more like April 1, 2005. Therefore, the lack of State Building Codes Division re-certification of the PCC Building Inspection Program appears to be a non-problem in the future.

Appendix T contains the January 12, 2005, Internal Draft 4, proposed new Division 98, Certification Rules. The proposed rule adopts the national International Code Conference (ICC) exams for inspector certification in place of the current state exams. Other rule changes include no new B-level inspectors allowed, Building Officials will have to become Certified Building Officials, and the adoption of the new Oregon Residential Specialty Code and its new "Low-Rise" Residential emphasis.

*B) Review and revise where necessary learning outcomes for the discipline/program and/or for any sequence of courses within the discipline/program.*

The following ten (10) learning outcomes go back to the program's inception. They need to be reviewed by the Subject Area Committee (SAC) and Advisory Committee in light of State Certification Rule changes and subsequent program changes. Program outcomes need to be checked annually for accuracy, especially when there are program changes.

Upon satisfactory completion of a Building Inspection Technology degree or certificates, students should be able to:

- 1) Complete a successful internship with a local inspections jurisdiction.
- 2) Complete with a passing grade the appropriate national and/or state licensing exam(s).
- 3) Understand professional and ethical responsibilities.
- 4) Function and communicate effectively one-on-one and within team or group settings.
- 5) Use appropriate techniques, skills and tools as needed in a work environment.
- 6) Interpret and apply architectural and engineering drawings in performance of building inspections.
- 7) Apply knowledge of construction and structures in the performance of building inspections.
- 8) Obtain employment in the Building Inspections field.
- 9) Complete successfully education and practices to maintain inspection licenses.
- 10) Participate in life-long learning.

*C) Give evidence that the discipline/program learning outcomes are being met by students.*

Evidence that students are meeting the discipline/program learning outcomes is indicated as follows:

- 1) Appendix C: Institutional Effectiveness Report - Goal 2: Student Success

The charts represent a five year study of Time required to complete requirements for a PCC certificate or degree; Number of PCC students who earn certificates and

degrees; Percentage of students who indicate attainment of a primary educational goal; Percentage of graduates/program completers who rate learning environment excellent or good; and Degrees and certificates awarded.

2) Appendix D: Institutional Effectiveness Report - Goal 4: Employment Success

The charts represent a five year study of Percentage of students who enter employment in jobs related to training; Percentage of students who indicate that they received excellent/good preparation in their area of study; Percentage of employers who indicate satisfaction with training provided by PCC; Percentage of employers who rate job preparation of employees who attended PCC as comparable to or better than job preparation of other employees; and Percentage of employers who would hire or recommend hiring of individuals with PCC training.

3) Appendix E: Three Years of Graduate Survey Results - Building Inspection

The charts give three years of Building Inspection graduates surveyed on goals and program success. Although Appendix E is more specific to Building Inspection students, it is nonetheless diluted by the inclusion of Architectural and Industrial Design students. Appendix E indicates that 74% of the graduates felt their current employment was somewhat or directly related to their PCC program. Only 17% felt unqualified in their area of study.

Appendix D includes surveys of professional/technical programs at Portland Community College (PCC) as a whole. The employers surveyed overwhelmingly indicate that professional/ technical training at PCC is adequate to excellent. The 2002-2003 students interviewed indicated 80% felt their jobs were somewhat or directly related to their training. 80% also felt their training at PCC was adequate to excellent. 95% of the employers found PCC training adequate to excellent. 80% of the employers found the PCC job training was comparable or better than other employees' training.

Of the Building Inspection and Drafting graduates from 1999-2000 through 2001-2002 surveyed in Appendix E, 80% or more rated the program adequate to excellent. 65% found the admissions advising adequate to excellent, while 75% found the program advising was adequate to excellent. Only 55% felt their job preparation was adequate to excellent. Too bad the survey cannot explain why 80% liked the program, but only 55% appreciated the training.

More specific evidence of program learning outcomes being met by Building Inspection students is not available. The charts and statistics in Appendix C, D and E are provided by the PCC Institution Research office. They collect the information, organize it into charts of limited value (lumping INSP, ARCH & DRF together), and provide it to the program. Newer information, statistics, and surveys specific to the Building Inspection



Program would require staff, time and budget support not available at this time. Although the following surveys would be helpful, feedback on program success is available from the Building Inspection Advisory Committee quarterly meetings. Student success is available from the Building Inspection Technology Alumni Association quarterly meetings.

- a) Success/completion rates of students placed in required internships and employer grading of student training in preparation for internships.
- b) Pass/completion rates of students/graduates taking national and state licensing exams.
- c) Success rates of students/graduates in finding jobs related to student goals and related to program training.
- d) Employer surveys of the quality of training received by students/graduates as evidenced in job interviews and hiring.
- e) Follow-up graduate surveys program preparation for immediate employment, job advancement and job retention.

*D) Describe how the courses in this discipline/program address the College Core Outcomes.*

#### Communication:

WR 121 English Composition and MSD 105 Interpersonal Communication are required by both degree programs and all four certificate programs. CG 209 Job Finding Skills is required by all programs, except the Building Code Administration degree. WR 214 Business Communications II; SP 111 Fundamentals of Speech; and MSD 111 Corresponding Effectively at Work are specifically required for the Building Code Administration degree. Some program courses require term papers, lab reports, and drawings be completed. Communication with employers is studied and tested through the required internship. The focus group meetings of employers, detailed in Appendices O, P, Q, & R, stressed a need for improvement in student communication skills.

#### Community and Environmental Responsibility:

Students study community and environmental responsibility together with professional ethics as they learn the building and site inspections process. Graduates of this program, when employed by the state, county and/or cities, will be charged with responsibility for environmental inspections required by their local communities. Community responsibility is also studied in program classes as students prepare to become part of a community's local government.

#### Critical Thinking and Problem Solving:

Many program courses require students to think critically and solve problems as a building inspector or plans examiner. Building inspectors and plans examiners are constantly solving problems of construction and design, requiring critical

thinking to examine given conditions and apply required building codes. Students practice in class, demonstrating competency both in class work and in their on-the-job internships. The focus group meetings of employers, detailed in Appendices O, P, Q, & R, stressed a need for improvement in student critical thinking and problem-solving skills.

#### Cultural Awareness:

Students live and work in a classroom environment of mixed cultures. The program attempts to recruit individuals from all cultural backgrounds. Program students learn in their classes to work with and grow to understand the need to respect other cultures as future public employees. Students are further taught that effective interpersonal communication on the job as a building inspector requires cultural sensitivity. The focus group meetings of employers, detailed in Appendices O, P, Q, & R, stressed a need for improvement in student awareness of cultural differences. Also, the Oregon Focus Group (Appendix P) stated a need for PCC to recruit more minorities to the program and ultimately to the building inspections profession.

#### Professional Competence:

Students learn basic competencies in the classroom. Students must act professionally and demonstrate professional competence during 180 hours of internship for each program certificate and 560 hours (300 beginning next fall) of internship required for the Building Inspection degree. Students are expected to act professionally when attending local workshops and seminars presented by professional inspection organizations. Students are expected to act in a professional manner at all times when in the community as they represent themselves, their employer (local government) and the college. The focus group meetings, detailed in Appendices O & Q, stressed a need for improvement in student's attention to appropriate dress for job interviews and work.

#### Self-Reflection:

Students are encouraged to reflect on their program needs and direction at all times, and seek program advising when developing program goals. Self-reflection is encouraged as part of the critical thinking/problem solving process. The building inspection process requires interpersonal communication at all levels of responsibility and with a varied clientele. Much of this communication requires personal confidence and self-reflection in order to be effective.

2) *To maintain instructional quality consistent with standards of excellence within the discipline/program.*

A) *Assess the success of the discipline/program in contributing to the College mission.*

*Portland Community College provides quality education in an atmosphere that encourages the full realization of each individual's potential. The college offers students of all ages, races, cultures, economic levels, and previous educational experience opportunities for personal growth and attainment of their goals.*

*To achieve its mission Portland Community College offers accessible and affordable education to the residents of its 1,500 square mile district and to the residents of its service districts. As a public, comprehensive, post-secondary institution, this multi-campus college offers lower-division college transfer programs, occupational and technical programs, basic skills education, and community education programs. Partnerships with business, industry, labor, educational institutions and public sector agencies provide training opportunities for the local workforce and promote economic development. Through effective teaching and supportive student services, Portland Community College prepares students for success as individuals, members of a democratic society, and citizens of a rapidly changing world.*

- 1) The Portland Community College (PCC) Building Inspections Program is offered primarily in the evening. Non-core classes are available days and/or evenings. The availability of classes both during the day and evenings creates a very accessible program to all students. Students are able to take program classes and maintain full-time or part-time employment. Program flexibility also encourages part-time students to enroll.
- 2) The program recruits and encourages students of all ages, races, cultures, economic levels, and previous educational experience, to seek opportunities for personal growth in the field of building inspections and attainment of their career goals.
- 3) Although the Building Inspections Program is available only at the Sylvania Campus, non-core courses are available at other campuses, colleges and through a number of Distance Learning options. Easy access to PCC classes is available using college provided bus and shuttle transportation from downtown and between campuses.
- 4) Most degree-seeking students in the Building Inspections Program are training for their second or third career. The program attempts to combine previous career experience with new training to produce a very employable graduate.
- 5) Students and faculty work closely together in the core courses. When students need additional help, they are referred by faculty to the college's many Student Services for information and support related to financial, emotional, and academic problems.
- 6) The Building Inspections Program supports an active Advisory Committee representing the many building inspection jurisdictions in the metropolitan area. The

Building Inspections Program and the Advisory Committee work closely in partnership to maintain a cutting-edge program and well-trained graduates able to meet the rapidly changing world ahead of them. The Advisory Committee Focus Group Meetings held in January 2005 provided valuable insight to future employers' needs, suggestions on needed program changes, and feedback on student success.

- B) *Report any changes the SAC has made to instructor qualifications and the reasons for the changes.*

Minor changes were made Fall 2003 and 2004 to instructor qualifications to clarify the needs and expectations for a new full-time instructor in the Building Inspection Program. Instructor qualifications now read as follows:

Education: Associate's degree in Building Inspection Technology, Architecture, Construction, or related field expected; Bachelor's degree preferred. Professional experience beyond minimum requirements may be substituted for education. Degree must be from an accredited institution.

Current Oregon Certificates required: A-Level Structural Inspector, One and Two Family Structural Inspector, and One and Two Family Plans Examiner, plus 2 of the following Oregon Certificates: A-Level Plans Examiner, A-Level Mechanical Inspector, and/or One and Two Family Mechanical Inspector.

Experience: Two years minimum full-time employment as a Building Inspector, Mechanical Inspector, and/or Plans Examiner is required. Residential and commercial experience preferred. Two years (full-time or equivalent) teaching code and/or building inspection-related classes preferred. Prefer teaching experience with the following building codes: International Building Code, International One and Two Family Dwelling Code, and the International Mechanical Code.

Changes in the State Certification Rules will add parallel Current Oregon Certificates required (including newly State required): Commercial Building Inspector, Commercial Mechanical Inspector, Residential Building Inspector, Residential Mechanical Inspector, and Building Plans Examiner.

- C) *Describe how the students in this discipline/program are using the library or other outside the classroom information resources.*

The Building Code Administration Degree requires traditional coursework more than library research in order to complete many of its courses. The Building Inspection Degree and related Certificates are based more on purchased code books for study and research and less on Library resources. The Library and other available resources are used by program students for a quiet place to study, access to computers and a place for group/team meetings. Most Building Inspection students work during the day and

therefore prefer their classes in the evening. After class, most students go home to see their families rather than extend already long days by spending more time on campus.

3) *To respond to the changing needs of students and the community.*

A) *List the professional development activities of the faculty over the last three years and describe any instructional or curricular changes made as a result of those activities.*

The Oregon Building Officials Association's Fall, Winter and Spring Conferences provide new code background, forums for discussion of code issues and an opportunity to update instructional material. Building Inspection faculty attend local and national code conferences, seminars and workshops whenever time and money resources are available.

State Building Codes Division Code Change Classes provide insight into proposed and adopted code changes. The classes are essential to update courses to the current code requirements and code books. Courses, course materials and curriculum must be changed each time there is a state "code change" and/or a national code change. Major code books change approximately every three years, with minor changes all the time. Each code discipline (structural, mechanical, plumbing and electrical) has its own code book, code requirements and code change cycle. Oregon adds to the mix with separate code books for commercial (International Building Code) and for one and two family dwellings (International Residential Code). Keeping up with code changes, new code books, the need for new instructional materials and new curricula is a full-time job outside the teaching workload.

Appendix F: Institutional Effectiveness Report - Goal 10: Resource - Faculty and Staff Development

College-wide resources include: Staff have access to a variety of opportunities for professional development; Faculty have access to and utilize resources that support instruction (LRC, classroom technology, teaching-learning center, etc.); training and equipment available for faculty; and Financial resources are optimized to ensure that programs and services are available to district residents.

Appendix F identifies a variety of professional development opportunities available to PCC faculty. The opportunities include Library and Learning Center support resources on campus; up-dated equipment in classrooms and offices; grants available for curriculum revisions; and sabbatical opportunities.

B) *Describe any significant shift in student demographics within your discipline and how that has impacted instruction.*

There are some small changes in the Building Inspection Program's student demographics as found in Appendix G: Section A: Characteristics of Students.

Table A.1: Gender, Three-Year History; Table A.2: Race-Ethnicity, Three-Year History; Table A.3: Age, Three-Year History; Table A.4: FT-HT-PT, Three-Year History; Table A.5: Service Area, Two-Year History, by Campus; and Table A.6: Degree-seeking and Student Major, Three-Year History.

Reviewing the demographical information provide in Appendix G, there are slight increases in female students; little change in the diversity of ethnic students; more young students; and more degree-seeking students in the Building Inspection Program.

Appendix G shows a growth in the percentage of full-time and half-time students with a reduction in part-time students. Although the slight increases do not impact instruction, they do increase the diversity mix of the program's students. Table A.6: Characteristics of Students shows the Building Inspection Program in 2003-2004 with 37.5% Degree-Seeking (INSP major); 27.3% Degree-Seeking (none INSP major); and 35.2% Non Degree-Seeking. Only 1 out of 3 students taking classes is actually in the Program or seeking a Building Inspections Degree.

- C) *Give examples of how feedback from students, business and industry, community groups, or institutions our students transfer to, was used to make curriculum or instructional changes.*

The Building Inspection Program lacks feedback surveys of students, community groups or institutions our students transfer to. Because the Building Inspection Program trains students to enter quasi-judicial work, community input is probably less important. Feedback from students is very important and something the program needs to address more in the immediate future.

There are very few higher education options for building inspection personnel to choose from. At Western Oregon University there is Bachelor's Degree in Public Policy and Administration, City and County Government Concentration with a minor in Building Code. The program accepts a few code courses from Chemeketa Community College. The Building Inspection Program at Portland Community College (PCC) was told by WOU that they would be treated similarly. Unfortunately, including general education credits, only 30 to 40 credits will transfer from either community college into the WOU program. The other related possibility, Washington State University, has expressed an interest in a transfer agreement with the Building Inspection Program at PCC. Unfortunately, the transfer is still in the discussion stage between WSU and the Washington Association Building Officials.

Anecdotal feedback from students suggests the need for more program emphasis on distance learning approaches, more emphasis on advising and that current instruction is good. Anecdotal feedback from Building Inspection Officials suggests the program needs strong central leadership and a knowledgeable contact person.

Some feedback from employers is available as a result of focus groups held in January 2005 (see Appendix O & Q), and the employers survey results (see Appendix P & R).

The focus group meetings and surveys all stated the program was strong. But the program needed to place more emphasis on communication skills (speech, writing and math) and customer service skills (interpersonal, conflict resolution, appropriate dress and interviewing). The focus groups also suggested new classes in “Oregon Inspection Certificate,” “Fire & Life Safety,” and “Multi-Family Housing”; and changes in Cooperative Work Experience (CWE) to add some experience with a different jurisdiction each term.

*D) What strategies are used within the discipline/program to increase enrollment, improve student retention and student success.*

The enrollment in the Building Inspection Program is very strong and growing: Appendix H: Section B: Summary Enrollment; and Section C: Detailed Enrollment, Three-Year History. Strategies to maintain strong enrollment have included informing Rehabilitation Counselors and Home Builders Association of the program’s availability for construction workers. Appendix H shows Building Inspection FTE increased from 33.6 (2001-2002); to 43.0 (2002-2003); to 51.0 (2003-2004). Unduplicated headcount held steady at about 180 per year, indicating more full-time degree-seeking students (also see Appendix G).

Appendix I: Section E: Student Retention, indicates that the Building Inspections Program may have a retention problem. Of the students enrolled Fall 2001, 62% continued to enroll in INSP classes Winter and Spring 2002. But of the students enrolled Fall 2002, only 18.8% continued to enroll in INSP classes Winter and Spring 2003 or enrolled for three (3) consecutive terms. Either the data is suspect or a retention problem exists. The program needs to closely watch its student retention data in the future.

The program, by the nature of its subject matter, attracts students for one or two classes. Building codes are changing constantly and professional Building Inspectors, Engineers, Architects, Fire Marshals, etc. regularly take one or two classes to brush up on the code knowledge. Also, the classes count toward “continuing education” credits required by their respective professional organizations. Even with normal attrition, the program needs to develop a system to track degree-seeking students. Tracking students could improve retention, help student select classes appropriately and determine degree completers.

Student success is measured in jobs. Appendix J provides employment figures and will be covered further in section 5.D of this assessment. Job outlook is good, but the Building Inspections Program lacks concrete data on the number of graduates finding jobs in this field. The Oregon Labor Market Information System (OLMIS), Appendix J, Statewide Employment Analysis: “The 2002 employment level is estimated to be about average. The 2002-2012 growth rate for this occupation is projected to be faster than average. Total job openings are projected to be about average. Most job openings projected for this occupation will be due to the need to replace workers who leave the labor force.” Looks like the OLMIS is predicting a larger than normal retirement group.

E) *Report any changes made in the last three years to increase student access and diversity.*

The Building Inspection Program has attempted to be sensitive to student needs. Most students taking classes in the program are also working full-time. Therefore, the majority of program classes are offered in the evening, to improve student access. The program lacks a strategy to improve the diversity of its students. Even without a strategy, word of mouth is causing improvement in the programs diversity (Appendix G).

F) *Identify any operational issues faced by the SAC that impact student learning in your area, (e.g., facilities, availability of part time faculty and other needed resources).*

The major operational problem faced by the Building Inspection Program is the lack of full-time faculty. The program is not large enough to warrant more than one full-time faculty member. Unfortunately, the college is unable to fund a salary sufficient to attract a well qualified individual. Also, if all the code related courses are taught by one faculty member, students lose the perspective of multiple faculty input and varied experiences. Without a full-time faculty member, full-time student advising suffers and students lose interest in the program. This may be evident, to some extent, in Appendix I: Section E: Student Retention table.

The facilities and equipment available are very good. Well qualified part-time faculty is also available and may present a possible solution to the need for a full-time instructor. Part-time faculty could “job share” a full-time position. Two half-time instructors could keep their current day employment and now find the PCC salary appealing. The program has part-time instructors currently teaching two evening classes. Adding an evening or two advising would reach half-time. The mix of different backgrounds and experiences would provide a good overlap. And two heads are generally better than one.

4) *To develop recommendations for improvement in the program/discipline.*

A) *Assess the strengths and areas in need of improvement in the program/discipline.*

The Building Inspection Program is a highly specialized program to meet the needs of the Portland Community College (PCC) District. For the narrow focus and limited job market, the program has a large student enrollment. Much of the increased enrollment is due to the attraction of other professionals to the advantages of first-hand building code knowledge. The Building Inspection Program is well supported in the metro-area and has a strong alumni association.

The program also regularly serves Oregon from The Dalles to Astoria and Southwest Washington. In reality, the program serves all of Washington as the state lacks a building inspection program. Rehabilitation counselors in Washington send their injured construction workers to the PCC Building Inspection Program. The PCC program also serves all of Oregon as Chemeketa CC Building Inspection Program is a capped limited enrollment, full-time day program. When Chemeketa caps their program, they refer all other student inquires to the PCC program. And as Chemeketa does not have an evening program, Salem workers drive to PCC for evening classes.



Areas in need of improvement include: more data on student success in their internships, exam completion, finding jobs, and graduate satisfaction; more data on employer satisfaction with interns and graduates; strategies to improve retention, student diversity, faculty diversity, and full-time advising.

*B) Given the above analysis and other findings of the SAC in this review process, prepare a set of recommendations that cover areas such as curriculum and professional development, recruitment and retention of students, obtaining needed resources, and being responsive to community needs.*

- 1) Faculty advising is critical to improve and encourage student retention.
- 2) Faculty need to track student success in internships, state and national exams, and to assist in finding jobs.
- 3) The program needs to develop strategies to recruit students, improve its visibility in the community, and increase student and faculty diversity.
- 4) The program needs to develop strategies to determine program satisfaction by regular surveys of graduates, employers, and current students.
- 5) The program needs to develop a strategy to use the newly collected data for program improvement.
- 6) The program needs to develop a strategy to react to changes in the building inspection profession, including changes in state and national requirements for individual professional licensing, exams, code material and inspection practices.
- 7) The program needs to maintain a strong Advisory Committee and develop strategies to keep it strong.
- 8) The program needs to develop a strategy to bring more Washington students to the program, encourage continued participation by Washington employers in the program's development, and encourage more internship placement in Washington.
- 9) The program needs to explore offering credit and CEU courses via Distance Learning to serve current and potential students.
- 10) All of the above suggestion would be easier with a full-time faculty member available to advise students, teach classes and collect program statistics. Most qualified building inspectors will not leave their jurisdiction for the lower PCC salaries. There is little to attract well qualified inspectors who already have good benefits and pensions with their public jurisdiction. Job sharing may offer advantages, allowing an inspector to keep their current job and work "half-time" evenings. Two half-time

faculty members could each teach two evening classes, thus sharing the teaching load, advising, and other job duties.

5) *To ensure that curriculum keeps pace with changing industry demands and continues to successfully prepare students to enter into a career field.*

A) *Evaluate the impact the advisory committee has on curriculum and instructional methods.*

The Building Inspection Advisory Committee needs to recruit members to bring it up to strength. The Advisory Committee meets four times a year or each academic quarter. A strong advisory committee provides community visibility to the program and brings community resources to assist the program. It represents the building departments in the Portland metropolitan area, including Southwest Washington. The Advisory Committee plays a very important role in the development of the program, internship sites, finding part-time faculty, mentoring students and job finding. It provides invaluable insight into jurisdiction needs, program successes, and program areas in need of improvement. Best of all, the Advisory Committee plays a major role highlighting the program to other jurisdictions, the community, and sending their employees for continuing education needs. Area jurisdictions are a major supporter of the Building Inspection Program at PCC and their letters encouraged starting the program back in the late 1980's.

B) *Review job placement statistics of students in your program over the last three years, including salary information where available.*

The Building Inspection program has few job placement statistics. Portland Community College (PCC) does not fund a concerted effort to track job placement statistics, yet continues to ask for job placement statistics in program assessments. The program has received some anecdotal reports from members of the Alumni Association that students are finding good jobs. A survey of the Alumni Association members is possible. But without a system tracking student progress, there is no way to distinguish students who may have found jobs from students leaving the program early or transient students taking a class or two.

Appendix J contains the OLMIS - Occupational Information for Construction and Building Inspectors, including Employment outlook and wage projections. Also included are "Salary.com" wage and benefit comparisons between national numbers and Portland, OR. The Salary.com charts show Portland pays about 5% above the national average. The OLMIS data indicates building inspectors earn about \$23.00 per hour on average. Employment projections indicate an 18.8% increase for construction and building inspectors from 2002 to 2012 in Multnomah and Washington Counties (Appendix K). Appendix M shows an abundance of job openings in Oregon and Washington.

C) *Analyze the program learning outcomes, competencies, and skills as compared to the business and industry needs today and in the immediate future.*

Building Inspections in Oregon are about to change. In fact, the State Building Codes Division is proposing that beginning January 1, 2005, the state will begin relying on the national International Code Conference (ICC) exam for basic licensing. This will reduce costs to the state, increase portability of inspectors to travel from state to state, and lead to more consistent testing.

Beginning with the effective date of the new Administrative Rules “on or around” January 1, 2005, the State of Oregon will not issue new B-level certifications to inspectors or plans examiners. The Portland Community College (PCC) Building Inspection Program has followed the state Oregon Administrative Rule requirements for the educational certification of “B” Level inspectors. With the loss of B-level state exams, and the state adoption of the national exams, the Building Inspections Program can now become more “generic”. The Program will reduce or eliminate the emphasis on Oregon Amended International Code Conference (ICC) codes and concentrate on training for ICC code inspections.

Because some building codes in Oregon are based in the Oregon Revised Statutes (ORS), the state will still require a licensing exam in the areas of “architectural barriers,” Oregon Administrative Rules (OAR), and state “customer service” initiatives. A new course, INSP 260, Oregon Inspection Certificate, will be needed to assist students seeking work in the State of Oregon and wanting to take the state licensing exam. A second new class, INSP 225, Multi-Family Housing, is needed to cover the new state Oregon Residential Specialty Code emphasizing the new Low-Rise Residential Dwelling Code.

With the removal of Building Code Division program certification restrictions, the program can now make needed curriculum changes. Two classes need to be dropped (no longer offered or needed) and “customer service” classes need to be added. Cooperative Work Experience hours/credits will be reduced and about 15% of the degree requirements will become program electives. The electives allow students to tailor their degree program to meet career goals and to meet differing Oregon and Washington building inspection employment requirements. The proposed changes will give the program a new look in the Fall 2005 Schedule of Classes. The PCC 2005-2006 Catalog will show the Associate Degree dropping from 100 to about 90 credits.

*D) Forecast future employment opportunities for students in your program.*

Appendix J: OLMIS - Occupational Information for Construction and Building Inspectors. The Oregon Labor Market Information System (OLMIS), reports its Statewide Employment Analysis: “The 2002 employment level is estimated to be about average. The 2002-2012 growth rate for this occupation is projected to be faster than average.” Good news for graduates.

Appendix K: OLMIS Ten-Year Occupational Projections. The OLMIS data indicates building inspectors earn about \$23.00 per hour on average. Employment projections indicate an 18.8% increase for construction and building inspectors from 2002 to 2012 in Multnomah and Washington Counties. A large number of building inspectors are projected to retire soon.

Appendix L: OLMIS License Information and Job descriptions. The OLMIS licensing information provides current qualifying requirements for Building Official, Structural Inspector, Mechanical Inspector and Plans Examiner.

Appendix M: OLMIS Job Displays of Job Openings and Job opening lists through other sources, all indicate a healthy job market both in Oregon and Washington for building inspectors. Included in the appendix are a wide variety of recent job openings.

*E) Analyze any barriers to degree or certificate completion that your students face and describe the main reasons students leave your program before program completion.*

Many of the courses required for the Building Inspection degree and certificates come from the Architectural Design Program. A barrier to degree or certificate completion is the potential of required Architectural classes being unavailable in the evening. The Building Inspection Program is an evening program, convenient to students working regular daylight shifts. The two programs work closely together to remove potential barriers and offer classes at convenient times and days.

A major hurdle is the time constraints placed on student completion by insurance companies supporting injured or displaced students. Their limits of 4 or 5 terms to complete a certificate or degree can force students to take required classes before necessary remedial and/or recommended prerequisite work is completed. The necessity of allowing these students to start any term is complicated by budget shortages requiring cuts of secondary offerings of required critical classes. Course sequencing can also disrupt students' progress when they don't start their program in the fall.

Another barrier to degree or certificate completion and one reason potential degree or certificate students leave before completion is a lack of adequate advising and progress tracking. The degree and certificate students in the Building Inspection Program, though fewer in number, demand greater attention in advising. These students tend to be injured construction workers, laid-off workers, and are mostly blue-collar. According to Appendix E, 80% have never been to college and/or they last attended classes many years ago. A college presents a new experience, new procedures, and requirements. Some, 20% by Appendix G, are older (above 40 years old) workers now forced to support their family on insurance benefits until they complete their college program and find new jobs.

These students need help in the very beginning to create their program, meet their insurance carrier's requirements, and find books and classrooms. They need their progress monitored, someone to answer their questions, find them help with their math homework, and assist with scheduling classes around necessary full-time jobs. The students need additional advising while completing their program, to determine their prequalification for internships, to set bench marks for national certification exam preparation, and to assist with job search preparation. Full-time faculty advising is also needed to encourage these students to complete their degree and/or certificates, to find internships for on-the-job inspections training, and assist in the selection of appropriate general education courses.

The other Building Inspection Program students are currently professional architects, engineers, building inspectors and students in other programs, including the Portland State University Architecture Program. These students are looking for one or two classes to fill a gap in their education; to satisfy professional organization continuing education requirements, and/or to satisfy licensing up-grade requirements. They are looking for classes that fit their needs, and also easily fit their schedule. Advising is important to these students for proper course choices and placement.

## *CONCLUSION*

The Building Inspection Program at Portland Community College is healthy. Focus groups were held in January 2005, see Appendix O & Q, and the employer's survey results, Appendix P & R: all stated the program was strong. But participants suggested more emphasis on communication skills (speech, writing and math) and customer service skills (interpersonal, conflict resolution, appropriate dress and interviewing). The focus groups also suggested new classes in "Oregon Inspection Certificate," "Fire & Life Safety," and "Multi-Family Housing," as well as changes in Cooperative Work Experience (CWE) to add some experience with a different jurisdiction each term.

The program has been growing 8 to 10 FTE per year for the last three years. The Oregon Labor Market Information System (OLMIS) data indicates building inspectors earn about \$23.00 per hour on average. Employment projections indicate an 18.8% increase for construction and building inspectors from 2002 to 2012 in Multnomah and Washington Counties. The wide variety of recent job opening notices indicate a healthy job market both in Oregon and Washington for building inspectors. The Building Inspection program is very healthy.

Distance Learning might be used to make the program more accessible. There are existing on-line courses available through the professional organization International Code Council. But there appears to be room for Portland Community College also to offer entry-level, short 2 - 6 hour code classes on-line, particularly for potential students in Southwest Washington. Other topics for Distance Learning related to Building Inspection include "customer service," "computer use basics" and "basic business skills" in writing and math.

# APPENDICES