Academic Audit Report

Associate of Applied Science Degree in Professional Studies: Information Technology (AAS-PS-IT)

The Regents Online Campus Collaborative
Tennessee Board of Regents

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ACADEMIC AUDITOR TEAM

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I. Introduction

The Regents Online Campus Collaborative Program (ROCC) offers an Associate of Applied Science (A.A.S.), Professional Studies (P.S.) in Information Technology (IT). Students are enrolled in one of the thirteen Tennessee Board of Regents (TBR) campuses. The purpose of the A.A.S.-P.S. IT program is 1) to provide students with relevant and up-to-date skills necessary for careers in information technology, and 2) to prepare students for entry into a four-year bachelors’ program related to information technology.

The A.A.S.-P.S. IT program was launched after inception of the ROCC program in late 2001 and had its first academic audit in 2008-2009. Moreover, the 2014 self-study report was a follow-up to address needs and opportunities that were examined and recommended from the prior 2009 academic audit. Thus, the 2014 academic audit process was the second academic audit for the A.A.S.-P.S. IT program.

The Professional Studies Information Technology program curriculum requires 60 credit hours to be earned from the following: 1) 3 credit hours from an Orientation course; 2) 15-16 credit hours of General Education courses from the Communication, Humanities, Mathematics/Science, and Social/Behavioral Science areas; 3) 27 credit hours for the Technical Concentration courses; 4) 9 credit hours from the Technical elective courses; 5) 5-6 credit hours from a list of approved electives. The Information Technology courses currently limits enrollment to 25 in each course to ensure that students receive appropriate attention to achieve necessary technical skills.

Currently, the Professional Studies IT program has a dedicated team of faculty and adjunct faculty representing various experience and research in the information technology field. Information obtained for the self-study report was achieved through survey responses from 100 key constituents represented from all 13 community college institutions. Additionally, data was collected from students, faculty, administrators, and student alumnae. For the academic audit, meaningful discussion and candid questions were exchanged during the interviewing process. Overall, the telephone and face-to-face interviews resulted in clarification of the program’s successes, current challenges, and future initiatives desired to improve the program. Furthermore, the A.A.S.-P.S. IT degree is eligible for and met the requirements for performance funding.

The protocol for the audit conducted on April 16, 2014, consisted of the following:

- Emails and a telephone conference in the weeks before the audit to discuss the academic audit process, the teams’ plans for the evening prior to the site visit, and a decision on the focus items of the written portion of the academic audit report;
- An April 15, 2014 dinner meeting to discuss the AAS-PS IT self-study report and any questions regarding the information from the report;
- An opening introductory session for the AAS-PS IT administrators, faculty, staff, and audit team members;
- A small group phone session with faculty members (two were physically present);
- A phone session with an alumni student;
- A working lunch for the three-team auditors;
• An exit session with administrators, staff, coordinators, and academic audit team members.

II. Overall Performance

The Associate of Applied Science, Professional Studies in Information Technology degree program’s goal is to provide the information technology industry with students skilled in all relevant and up-to-date technical skills necessary to contribute in the various technology fields. The A.A.S.-P.S. IT degree also is to be adept at preparing students to move forward into a four-year information technology degree program. The current curriculum provides courses in which, after successful completion, the students should understand and possess a basic command of programming language concepts and structures, android mobile programming, networking design, database design and administration, web page design, computer graphics, and Operating Systems and Microcomputers. All stakeholders that participated in the self-study report have stated their commitment to ensuring up-to-date and quality resources provided for continued success for the A.A.S.-P.S. IT program.

The academic audit team members heard positive reviews from a former student in regard to preparing him for his current job or giving him needed skills to be marketable for desired industry jobs. None of this is possible without the dedication, continuous communication, collaboration, and modifications to the program among the faculty, advisors, industry constituents, and administration. Additionally, the faculty appear to be dedicated to the students by being readily assessable and providing the needed mentorship. Additionally, the faculty appear to be in constant contact with all stakeholders, including outside industry contacts, in order to adjust and modify the program to meet up-to-date curriculum and quality resources for the Information Technology program.

Since the 2009 academic audit, the success/passing rate of students increased 8.4%, the failing rate dropped 3%, and the withdrawal/drop rate decreased 4.9%. According to the self-study report the lowest failing rate is represented by the database courses with the highest failing rates represented from the App and OS courses. Some mention of the reasons for failure rates stem from students’ lack of strong critical thinking skills and logic and sequencing skills prior to entering the IT courses. Some of these concerns were addressed in the academic audit and include more faculty hands-on approach with frequent and consistent feedback through traditional email and discussion posts, but also through creative technologies such as Adobe Connect or other virtual face-to-face collaboration means. Other identifying initiatives include evaluating students who are likely to succeed in the IT program by examining projects and assignments early on in the program and then guiding them accordingly.
III. Performance Focal Areas

A. Learning Objectives

Courses were developed by ten of the thirteen TBR community colleges, illustrating the statewide interest in the subject matter; however, there is no mechanism other than the Academic Audit to review program goals and learning outcomes. The self-study report notes that faculty members work through “information networks of communication and discussion.” The report notes that Quality Matters (QM) standards are applied to all of ROCC (p. 10), yet other than the initial development of each course; there is no regular appraisal of courses. QM does not require input from a group of subject-matter experts. The self-study noted intent to develop a plan to apply QM course review to all major and elective courses in the program fall 2014 through summer 2015 (p. 22).

The syllabi for courses included in the program include course descriptions and list course learning objectives. The program goals or learning objectives were, according to the audit report, formalized in 2005-06. Not all program major course were used to meet learning outcomes, and of the 11 courses listed which meet learning outcomes, four are elective options. Five of the technical electives did not contribute to the learning outcomes.

The self-study report mentions that the last time the course designers met, it was during the development phase of the A.A.S. degree in 2003. This may be due to the lack of mechanism available other than the academic audit for course review. The self-study report identified the need for better communication between all involved in curriculum (p. 13). During the site visit it was recommended that an annual review in fall may be appropriate since home schools are making final changes to curricula for the upcoming college catalog publication. It is in spring that home schools communicate course changes and evaluate changes for course equivalency.

Since the TBR common curriculum initiative is currently in the process of aligning computer and information technology A.A.S. programs state-wide, there is an opportunity to view the Professional Studies, Information Technology concentration with an eye toward current trends in technology and employer needs.

At that 2003 meeting to develop the degree, representatives from the Tennessee Colleges of Applied Technology were present to consider articulation to and from TCAT and Community College. No articulation has been developed and no opportunity for subject-matter experts across institutions to meet to discuss articulation. If the TCAT are included in the common curriculum initiative process, a crosswalk of learning outcomes and/or courses from the various institutions may be established. While community colleges and TCATs have computer science or information technology courses/programs with advisory committees, there’s no means for course developers or faculty from across the state to discuss advisory committee or program faculty recommendations.

The ROCC website provides an opportunity for communicating program objectives in order to increase understanding of and promotion of the program. Communication of the learning objectives as related to program goals would better inform potential students, employers, and
other stakeholders. Publishing an annual ROCC catalog would also help communicate program and course offerings.

**B. Curriculum and Co-Curriculum**

The education curriculum of the Information Technology A.A.S. program is designed to satisfy the requirements of the Tennessee Board of Regents (TBR) mandate that all community colleges offer an A.A.S. program of study in Information Technology. The program is designed to help students achieve the major learning outcomes designated by the State and by the national accrediting agency. The self-study report suggested creating a subcommittee to regularly evaluate the curriculum (p. 13). Since the TBR common curriculum initiative is currently in the process of aligning computer and information technology A.A.S. programs statewide, there is an opportunity to view the Professional Studies, Information Technology curriculum utilizing a committee of subject-matter experts from across the ROCC. Relative to this self-identified need, only one ROCC graduate participated in the audit team interview; however, this was an articulate student successfully employed in his field of study. His comments relative to curriculum are valuable: there’s a need for course content that reflects information relevant to current IT usage and standards (Self-Study report Appendix C p. 29).

The increase in student success rates in required courses are impressive. Yet, there is a lack of information about students, how they attain the degree (whether courses are taken at multiple schools and/or in various delivery methods), and what they do after attaining the degree. While we have information on student success rates in courses (Self-Study report p. 7, 8), we do not know whether or not graduates are utilizing all ROCC courses to complete the degree or what percentage of the degree was earned with ROCC courses.

During the site visit, it was recommended that the home schools might be used as a benchmark for systematic means of gathering student data. One example is utilizing the National Student Clearinghouse to track student attendance at other schools students transitioning between schools and or four-year degree programs.

The self-study report asked what makes the Professional Studies A.A.S. program a success and determined that measuring graduate’s performance was the key to answering the question. The program has had only 32 Professional Studies, Information Technology graduates. They were surveyed, and only five responded. The five respondents reported being satisfied or very satisfied with their education. This reveals a lack of information from employers served by the program and lack of a mechanism to obtain and analyze employer attitudes and opinions in order to better serve all stakeholder groups. Since the home schools must measure and report on placement of A.A.S. graduates, the data may be utilized for academic audit if there was a procedure for requesting and attaining such data.

The self-study report identified program articulation as a potential initiative. It is not common for A.A.S. programs to focus on articulation to four-year institutions; however, since all six TBR universities offer a Professional Studies program, the prospective is realistic and would provide the opportunity for further exploration of industry trends relevant to each degree level. It would be an easier transition for subject-matter experts and advisors if a Tennessee Transfer Pathway (TTP) were established, but considering the Business Administration TTP, only one of the major
courses listed, INFS 1010, would transfer. Creating a transfer pathway may require significant revision of the A.A.S. curriculum. The self-study report offers no count of how many of the 100 stakeholders surveyed responded.

The audit revealed that many of the students enrolled in these concentrations are already working in the field, which enhances the opportunity for a deeper learning experience through the application of what is learned in the classroom. The faculty members believe that a combination of education, certification, and experiential learning experiences provide the best education for the students

C. Teaching and Learning

The Associate of Applied Science Degree Professional Studies: Information Technology (A.A.S.-P.S.-IT) self-study recognizes that communication is central to effective teaching and learning in an online, asynchronous environment. The study suggests ways to enhance such an exchange of ideas.

First, a yearly meeting with developers could address a gathering. Such an assembly would allow ample time for collaboration on updating of course content. Though the number of students replying to the survey was low, the A.A.S.-P.S.-IT self-study student surveys introduced the idea that some content was out of date. Such a forum would allow developers and instructors to view the latest course materials and talk with people in industry to determine what updates to the courses would be most desirable. An added benefit of such a meeting would be the proposed addition of ROCC staff involved in course design. These individuals would be able to give a different perspective on the best ways of delivering content.

Second, instructors might benefit from more rigorous training in the implementation of the course. This would include instructors being made aware of the course objectives and their exact role as instructors including:

- Allowed content modifications in the course.
- Instructor responsiveness: All emails and questions should be answered in 24 hours and tests and projects graded promptly.
- Such training would contribute to course uniformity.

Third, an internship program would benefit students. Student requested the opportunity to work with individuals in their specific field of interest. Such a program would provide chances for networking and mentoring. This would advance the program’s goal of showcasing student accomplishments and skills to stakeholders.

Fourth, an exploration of alternate delivery methods such as Adobe Connect could strengthen the program by increasing instructor – student interaction.
Fifth, an addition of more theory to the courses could be helpful. It would address different learning styles and strengthen the background of students continuing in the bachelor’s degree program.

D. Student Learning Assessment

Student learning assessment is a strength of the Associate of Applied Science Degree: Professional Studies: Information Technology Program (A.A.S.-P.S. IT). The study recognizes that the program requires continuous updating and improvement in order to remain rigorous.

The self-study report points out the need for uniformity of assessment across multiple sections and points out that assessment data must be applied to the entire spectrum of courses. Meeting these objectives and requirements for multiple section verification requires coordination of tests among instructors and mapping of tests to course objectives. Accomplishing this should involve collaboration between instructors and developers in production of question pools for individual tests or development of a pool of suitable projects or problem sets.

Although the pool of students responding was not large, several facts emerged that require consideration. Students suggested that more complete test and project feedback would be helpful. Increasing feedback could serve as a powerful learning tool. Students learn from their errors. The process of production of feedback would be helpful in early identification and engagement of students in need of remediation.

Students evidently perceive a lack of agreement between course content and assessment. Perhaps this should be investigated. This could be due to the presence of outdated content in the course (discussed in Teaching and Learning Methods). Another possible contributing factor could be some discrepancies in alignment of test and content with course objectives.

In short, the testing program is strong, but could only benefit from the suggestions for collaboration proposed by the self-study report. Moreover, the A.A.S.-P.S. IT program is to be commended for initiating the mapping of program goals, course goals, and student learning outcomes.

E. Quality Assurance

Best practices to ensure quality of the ROCC A.A.S.-P.S. Information Technology (IT) program and processes have been identified and stated within the self-study report and academic audit. Among the many best practices, communication initiatives, faculty advising and mentoring, and program quality improvements are addressed in this report.

Communication among developers, faculty, curriculum committee, and other constituents across all campuses is challenging yet important in order to ensure course consistency and inclusion of up-to-date technological materials and skills within courses, both of which are important for a technology degree program. Seeking input from alumni, course developers, and faculty for course improvements are current practices as mentioned in the self-study report and academic audit.
audit interviews. Additionally, establishing and implementing processes of clear lines of communication and collaboration among colleagues will only increase the quality of the A.A.S.-P.S. IT program.

Communication among faculty and students within the program is adequately occurring as noted from the self-study report; however, means for improvements in communication is an ongoing endeavor. Many innovative ways of connecting with faculty, alumni, and students was mentioned as a priority of the A.A.S.-P.S. IT program including use of podcasts, Adobe Connect for class labs, and creation of an eBrochure for updating ROCC website. Finding adequate methods of communication through online or in face-to-face is advised and recommended. Some courses that are more technical in nature would benefit from more online face-to-face collaborations that allow for immediate free flow of feedback as expressed in the audit interviews by faculty and student. Furthermore, both the self-study report and interviews revealed the desire of students to receive detailed feedback of assignments and problems over just receiving a grade.

Excellent mentoring and advising initiatives is key in promoting the success of any program. The A.A.S.-P.S. IT program currently fully utilizes the ROCC mentoring for faculty and provides assigned faculty advisors to students. However, both the self-study report and interviews address the continued need for improvements in the advising area. For example, improvements are needed in communicating degree options for students and pathways to attaining each degree and focus area options for the A.A.S., A.S., and B.S. options. Furthermore, the self-study report indicated that meetings are conducted to continually assess services and brainstorm for potential improvements. Additionally, mention of using volunteer alumni for mentoring students was suggested in the academic audit as well as other continued efforts to innovatively connect and mentor.

Continued improvements in courses and faculty development are important for any program’s success and relevance to the industries it serves. Many commendable quality improvement initiatives were mentioned during the academic audit that include faculty keeping current technical certifications, SACS certified faculty, use of faculty and student evaluations, alumni survey feedback, and course improvements and standards achieved through compliance with American Disabilities Act (ADA).
IV. Conclusion

The 2014 academic audit committee members concluded the following for the ROCC A.A.S. in Professional Studies: Information Technology degree program:

A. Commendations

Commendation #1 – The A.A.S.- P.S. IT program is to be commended for the cooperation between the PS-IT faculty from the TBR institutions on behalf of ROCC.

Commendation #2 – The A.A.S.- P.S. IT program is to be commended for the dedication of the faculty members and their enthusiasm for improving the quality of the curriculum and the student experience.

Commendation #3 – The A.A.S.- P.S. IT program is to be commended for seeking input from alumni when no other ROCC audit team had done so.

Commendation #4 – The A.A.S.- P.S. IT program is to be commended for beginning the process of mapping program goals, course goals, and student learning outcomes.

Commendation #5— The A.A.S.- P.S. IT program is to be commended for the initiative to develop a Quality Matters course review.

Commendation #6—The A.A.S.- P.S. IT program is to be commended for planning to revise support structure including staffing and lead-instructor roles.

B. Affirmations

Affirmation #1—The academic audit team affirms the A.A.S.- P.S. IT program’s goal to showcase ROCC student accomplishments and skills to shareholders.

Affirmation #2—The academic audit team affirms proposing a renewed emphasis on instructor responsiveness, which is supported by student feedback.

Affirmation #3 – The academic audit team affirms The A.A.S.- P.S. IT program’s interest in establishing articulation for Tennessee Colleges of Applied Technology students.

Affirmation #4 – The academic audit team affirms the program’s need to identify improvement of consistent use of embedded librarians and Virtual Library.

Affirmation #5—The academic audit team affirms the initiative to improve the quality of the program’s promotion online, including the creation of the eBrochure through the ROCC website.

Affirmation # 6—The academic audit team affirms the recognition to explore alternative delivery methods such as Adobe Connect.
C. Recommendations

Recommendation #1 – The academic audit team recommends communicating the degree options for students: A.A.S., A.S., B.S. and the focus of each option. Pathways to attaining each degree would be explained including transfer of courses.

Recommendation #2 – The audit team recommends formalizing annual reviews of courses and curriculum. Annual changes could be communicated to colleges, universities, and TCATs to update equivalency tables.

Recommendation #3 – The audit team recommends tracking students’ course success rates, progress to the next course, and completion to work or transfer to college.

Recommendation #4 – The audit team recommends that Website materials and links be kept operational and accessible and materials posted remain current.

Recommendation #5—The audit team recommends implementation of innovative ways of connecting IT students with faculty, alumni, and community mentors.

Recommendation #6—The audit team recommends finding ways to incorporate foundational computer science concepts, which explain theory behind technical application skills.