

2008 PROGRAM OUTCOMES ASSESSMENT SUMMARY REPORT

PROGRAM: WEB DEVELOPMENT - AAS-T DEGREE AND CERTIFICATE

DATE: 1 FEBRUARY 2008

DEMONSTRATION OF LEARNING: *What assignments or projects demonstrate student learning outcomes are achieved?*

[Note: evidence of learning contained in Assessment methods and Findings sections.]

Web Development students complete the program prepared to become independent free lance web developers or employees of a firm in which they play a supporting role in web development. The program builds students' basic skills in web development through a series of courses that teach all facets of web authoring. In some cases the students work collaboratively with Web Design students. Each course requires a final project that implements the course outcomes and goals. The projects recreate real world web development tasks and projects and result in hands-on application of the theory and skills taught in each class. Student work is evaluated for completeness, complexity, presentation and timeliness. Key projects in the program include:

- WEB 105 (Working on a web team) this course is effectively a crash course in how to run your own business. Students interview a client and go through the steps of designing a website to client specifications. Students learn project management skills with an emphasis on the communications aspect of the project.
- WEB 205 - Career Strategies - Students learn how to create resume, cover letter, develop contacts, network, contact agencies, and they create portfolio website. (Sample: <http://debbielouie.com/portfolio.php>)
- ITC 210 (Advanced Web Development) - Students work with WEB 210 (Advanced Web Design) students to develop a project for a non profit client. The agency provides student projects, program faculty supervise development and project management in real world practice. Both faculty and clients sign off on an evaluation form. Students practice teamwork as well as project management skills.
- ITC 197 (Work Experience) is voluntary - Student projects are self directed by the students. Each student develops a position in industry or finds a client project. The student begins by interviewing the client, and then develops the interface. The project demonstrates students' skill in the design and management of the project, using time sheet that logs hours spent on the tasks associated with the project as well as the final product. The final product demonstrates their skill using XHTML, CSS, Adobe Photoshop & Adobe Illustrator, JavaScript and PHP. A Faculty advisor provides support and feedback and the student is also evaluated by the client or employer who signs off on an evaluation form.
- ITC 280 (Web Databases) - Project driven course covering fundamentals of building dynamic web applications using open source technologies such as PHP & MySQL.
- ITC 285 (Capstone Project) - Students participate in a capstone project team with Web Designers, where they complete a website for a live, non-profit client. Students develop and complete a project that brings together all they have learned in the program. The project represents the culmination of learning, demonstrates skills and knowledge and is intended to be used as a portfolio piece for potential employers. Student projects are evaluated for completeness, complexity, presentation and timeliness.

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EXTERNAL EVIDENCE? *Alumni, employer, Curriculum Review, Technical Advisory Committee feedback?*

- The Technical Advisory Committee (TAC) offers feedback on current course offerings and program learning outcomes, making recommendations of changes needed. Committee members stress modeling real world experience and professional certifications. In 2005 the TAC prepared a white paper on "The Future of IT" to build a case for IT program support.
- Focus Groups collect feedback from current students toward the end of their degree, to gain insight into the student's perspective.
- Post graduate (alumni) surveys and anecdotal alumni feedback demonstrate learning for program outcomes as they detail how the skills students learned at Central are being applied in the work place. Current students are surveyed twice per year.
- Students receive internship feedback from external clients through internship assignments.
- Anecdotal evidence can be retrieved from LinkedIn.com. Students post resumes and ask faculty for references. Faculty can see current employment status and contact information for former students. (<http://www.linkedin.com/>)
- Curriculum Review Committee: The IT Programs were reviewed collectively in fall 2007. They were commended for the collaborative relationships between the programs and for frequent curriculum revisions to reflect changes in hardware and software.

FINDINGS: *What have you learned from your outcomes assessment activities?*

- Course revisions are needed in ITC 280 (Web Databases) and ITC 172 (Visual Basic) to add ASP content.
- Students come with wide variety of backgrounds; some courses are appropriate for some students while some are too low level for others.
- Alumni surveys and follow-up calls provide evidence that students are well prepared for entry level employment in the IT industry.
- Industry expects high levels of skill in many areas.
- The Curriculum Review report documents that faculty substantially rewrote the curriculum over the last year in response to the TAC's "White Paper on the Future of IT." The curriculum is frequently updated to reflect changes in standard software, hardware and protocols.
- Pre- and post-testing in program courses and student self-assessment would provide helpful information for curriculum development.
- Introductory courses open to all might draw new students into the IT programs.

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- Since the 2005 PAVS report, program enrollments have been climbing.

ACTIONS TAKEN: *What program changes have you made in the last three years? -- WHAT WAS THE IMPETUS FOR CHANGE?*

Created ITC 281 (Advanced Web Databases) and moved WEB 110 to prerequisite level.

2007: Previously, we required 2-3 courses specifically ITC 134/140/136 but found many students had vast work experience in one or more of the courses and we'd do many substitutions. We implemented a "core" set of courses to replace the prior ones where students can choose from 5 courses ITC 134 Operating Systems/136 Unix/140 Intro to Hardware/150 Intro to Security or NET 120 Network Essentials knowing students are aware of their own knowledge gaps and can choose which need filling. This core is called "Restricted IT Elective" and IT programs vary from requiring 1-3 of those electives.

Spring 2007 Revised ITC 172 (Visual Basic) and ITC 280 (Web Databases) and added 2 new courses ITC 210 (Advanced Web Development and ITC 281 (Advanced Web Databases).

- ITC 172 revision moves away from stand alone desktop development using Windows Forms to more web-centric development with ASP.NET.
- ITC 280 streamlines course to focus on open source technologies such as PHP and MySQL.
- New ITC 281 provides ability to introduce and explore more advanced Web Database technologies such as Rich Text Editors, comparing open source versus vendor specific technologies such as Java Server Pages, ASP.NET, Ruby on Rails, Ajax and other emerging technologies.
- ITC 210 has been created to couple with WEB 210 where teams are made across both courses to accomplish a real-client, project-based course made up of all components of this arena. Teams will have the skill sets to accomplish functional and design requirements of specific clients in the non-profit arena.

ACTIONS PLANNED: *What program changes or new assessment activities are you planning for next year?*

- Further develop student, alumni and industry surveys.
- Implement Internship requirement
- Establish Course pre and post surveys
- Establish program entrance and exit surveys.

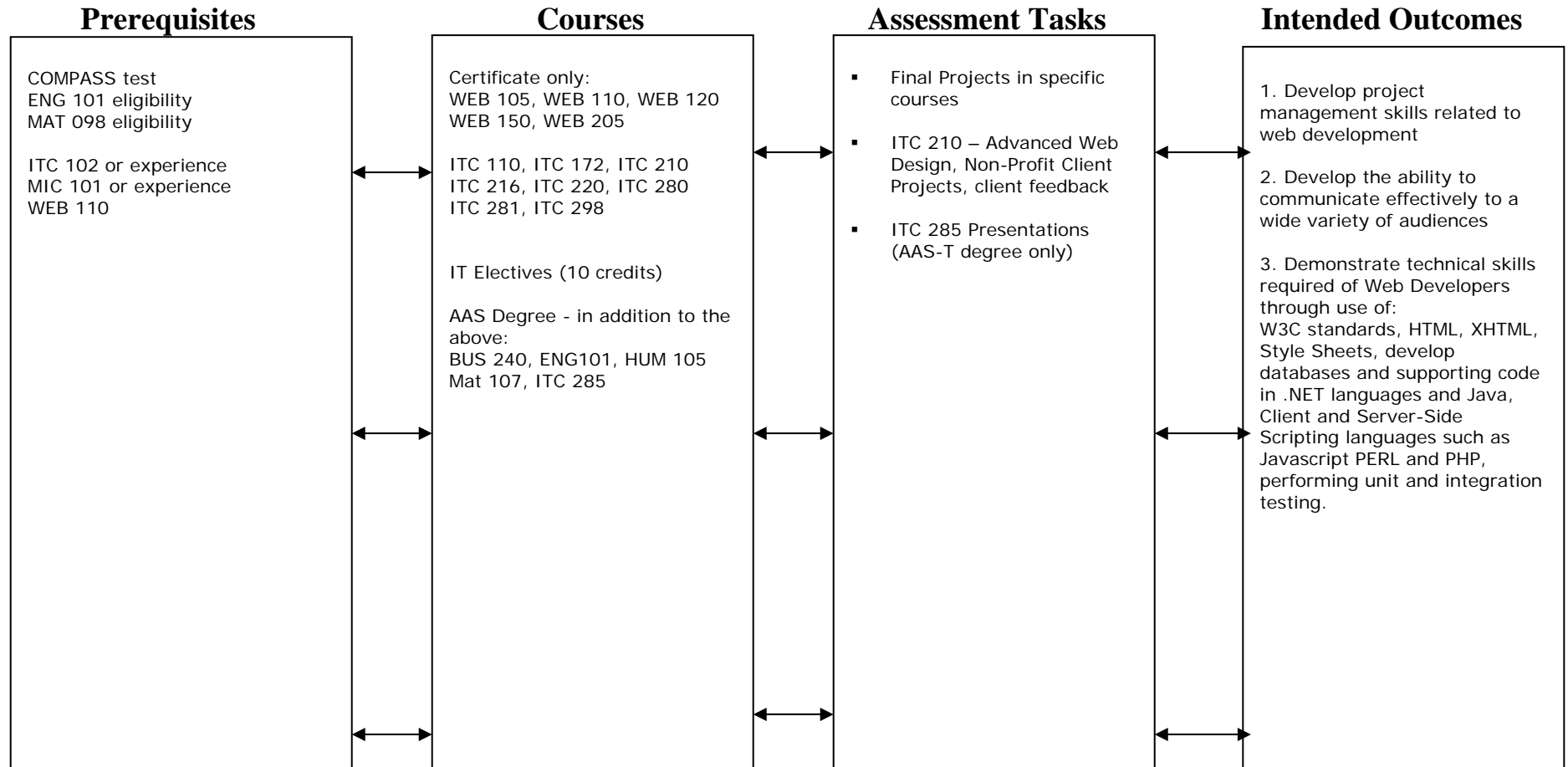
Web Development – AAS-T Degree & Certificate

Revised 14, April, 2008

Program Name:

Theme(s): Expertise in Web Development, back-end programming, Database development, customer or employee service, problem solving and communication.

Program Role: Prepare students to work in business, public sector and IT environments developing and maintaining web sites.



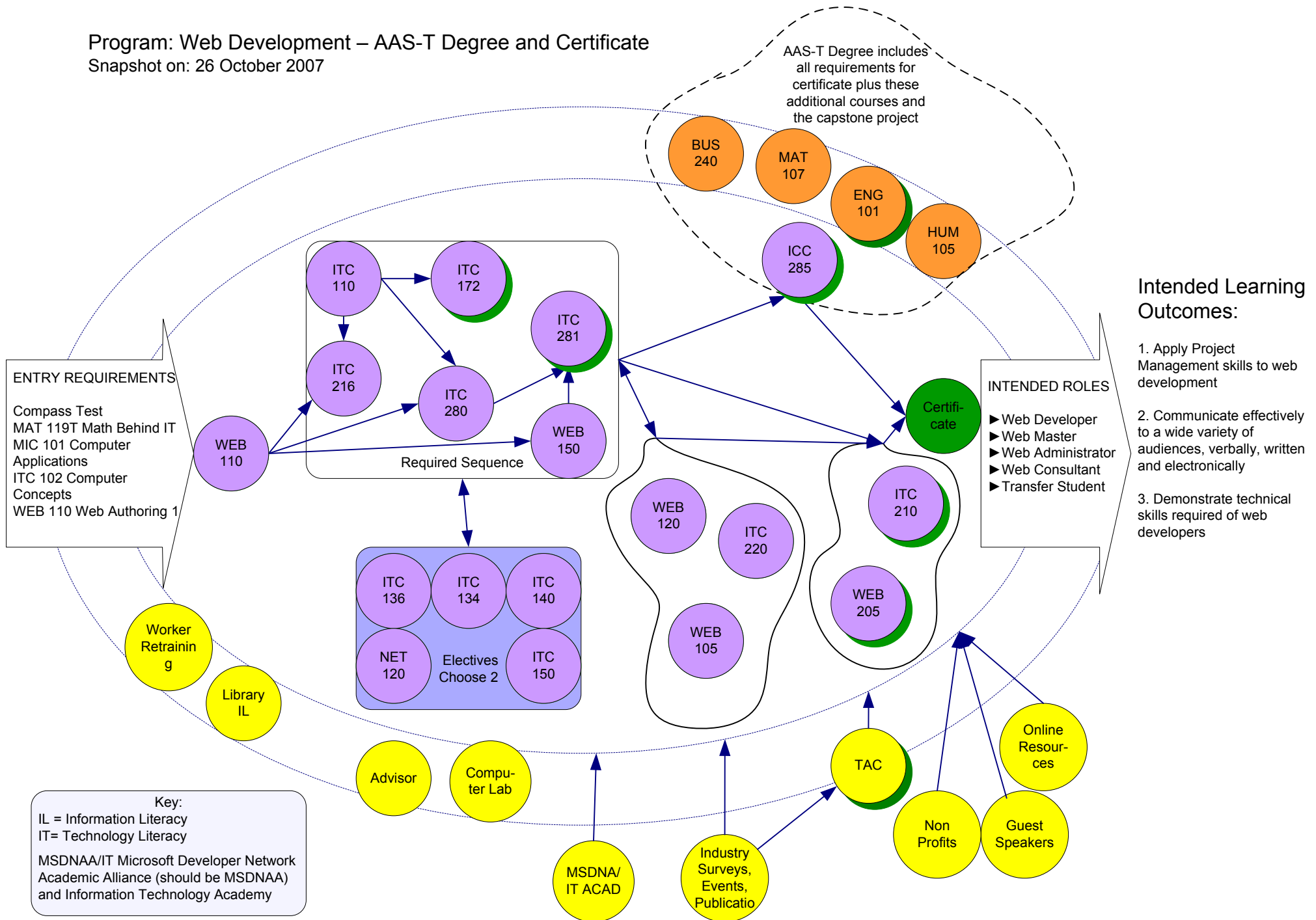
What must students understand to demonstrate the intended outcome?

What skills must students master to demonstrate the intended outcome?

What will students do in here to demonstrate evidence of the outcome?

What do students need to be able to DO “out there” that we’re responsible for “in here”??

Program: Web Development – AAS-T Degree and Certificate
 Snapshot on: 26 October 2007



Program Assessment Inventory

Program: Web Development – AAS-T and Certificate

Assessment methods used to determine that students are prepared to succeed and that they have achieved the program learning outcomes when they complete degrees or certificates.

	<i>Early program</i>	<i>Mid program</i>	<i>End of program</i>
<i>Students are prepared to learn (prerequisites)</i>			
ASSET test scores			
COMPASS test scores	<i>X</i>		
SLEP test scores	<i>X</i>		
ITC 102 Computer Concepts or Demonstrated Computer Experience	<i>X</i>		
MIC 101 Microsoft Office or Demonstrated MS Office Skills	<i>X</i>		
ENG 106 Technical Writing	<i>X</i>		
WEB 110 Web Authoring 1	<i>X</i>		
<i>Students are assessed as they move through the program</i>			
Competencies assessment (By Course)	<i>quarterly</i>		
Internship feedback			<i>X</i>
Pre-Mid-Post assessment (N/A)			
Service Learning experience feedback (N/A)			
Student course evaluations	<i>quarterly</i>		
Student focus groups			<i>X</i>
Student grades	<i>quarterly</i>		
Student interviews (N/A)			
Student self assessment (N/A)			
Student surveys			<i>X</i>
<i>Students are assessed as they complete the program</i>			
Completion statistics			<i>by College</i>
Capstone projects			
Graduation statistics			<i>by College</i>
Portfolios			<i>X</i>
Presentations	<i>X</i>	<i>X</i>	<i>X</i>
<i>External assessment data is collected</i>			
Transfer rates			<i>by college</i>
Employer surveys (N/A)			
Technical Advisory Committee	<i>meets quarterly</i>		
License certification success rates			<i>by college</i>
Performance in 4 year programs (N/A)			
Employment rates (N/A)			
Salary statistics (N/A)			
Survey of former students (N/A)			

Web Development – AAS-T and Certificate

Learning Outcomes

1. Develop project management skills related to web development, such as:
 - Gather data to identify customer requirements.
 - Define scope work.
 - Select programming languages and tools.
 - Evaluate web technologies and standards.
 - Define security measures.
 - Review technical considerations and constraints of projects.
2. Develop the ability to communicate effectively to a wide variety of audiences, verbally, in writing, and electronically by:
 - Documenting application/website changes.
 - Preparing and presenting functional and technical specifications.
 - Evaluating and recommending web hardware, software and third party solutions.
 - Providing quality customer service.
3. Demonstrate technical skills required of Web Developers through use of W3C standards, HTML, XHTML, and Style Sheets, develop databases and supporting code in .NET languages and Java, Client and Server-Side Scripting languages such as JavaScript, PERL and PHP, performing unit and integration testing.

AAS-T degree outcomes include those of the Web Development certificate as well as the following general course outcomes:

1. Demonstrate the ability to communicate effectively in various formats including written documentation, email, spoken word and address communication to an audience of differing knowledge and listening levels by utilizing appropriate terminology, schematics, electronic presentation and technical documentation; as taught in ENG 101 Composition and ENG 106 Technical Writing.
2. Demonstrate computational and problem solving skills as applied to the computing industry; as exemplified in MAT 107 Math Applications or MAT 116 Math, A Practical Art.
3. Demonstrate knowledge of human relations and team work as applied to the work environment of information technology industry in America and around the world; as taught in HUM 105 Intercultural communications and BUS 140 Customer relations.