Tuskegee University
School of Architecture

Architecture Program Report for 2011 NAAB Visit for Continuing Accreditation

Bachelor of Architecture [170 Credit Hours]

Year of the Previous Visit: 2008
Current Term of Accreditation: Three-year term of initial accreditation effective January 1, 2008

Submitted to: The National Architectural Accrediting Board
Date: September 4, 2010

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Table 1 Chronology of Significant Dates for the Department of Architecture

Date	Event
1893	Tuskegee University began offering certificates in architecture under the Division of Mechanical Industries.
1902	Tuskegee graduate, John Lankford, became the first African American licensed architect in Washington, DC.
1930	Tuskegee Institute was the first school to admit African American females.
1957	A four-year curriculum in Architecture leading to the Bachelor of Science degree was initiated.
1965	The professional six-year Bachelor of Architecture Program began.
1967	Tuskegee Institute graduated the first African American female in architecture.
1968	The Schools of Mechanical Industries and Arts and Sciences were aligned to form the School of Applied Sciences.
1970	The Architecture Program was accredited by the National Architectural Accrediting Board.

Program Mission

After some review and discussion, following the 2006 NAAB visit, the faculty accepted the mission statement adopted by the faculty of the Department of Architecture and endorsed by Tuskegee University in 2004:

The Architecture and Construction Science and Management programs prepare professionals who are capable of playing an active role in rebuilding our cities, towns and rural communities so that they may become truly meaningful places for all people to work and live. These programs endeavor to develop professionals with an appreciation for the humanistic (social, psychological and physical) aspects of a building problem, as well as other factors such as health, safety, welfare and economic feasibility.

The Architecture Program is founded on a belief in the power of architecture to uplift the human condition and give form to society‘s highest aspirations. Students are prepared to become citizen architects - community leaders who provide a vision of a better-built environment. The Program will realize its mission through teaching strategies based on Booker T. Washington‘s philosophy of educating the hand and the mind together in a cross-disciplinary context:

- Digital learning environment

In an effort to foster student involvement and development, student senators are elected at each class level. They attend faculty meetings and are the key liaisons in conveying school's policies and activities to the student body at large. The American Institute of Architects Students (AIAS) and National Organization of Minority Architects Students (NOMAS) chapters involve themselves with other schools and professional organizations. These chapters' officers attend local, regional and national conferences as representatives of the school and its student body. The Dean meets with these officers on a monthly basis to keep abreast with their activities.

Studio Culture

The School currently has the Tuskegee University School of Architecture Studio Culture Policy. The creation of this policy was a collaborative effort between faculty and students. This policy is distributed to students and faculty at the beginning of each fall semester. It includes procedures and guidelines for studio related activities and working environments. It is based on The Redesign of Studio Culture by the AIAS Studio Culture Task Force.

Studio Culture Policy: School of Architecture, Tuskegee University

1. Encourage students to lead balanced lives by encouraging healthy studio behavior:
    - Reduce the need for all-nighters: set reasonable presentation requirements relative to time available, and when possible collect projects the night before the jury.
    - End project criticism before presentation phase begins to discourage last-minute design changes.
    - Provide information on stress management.
    - Provide healthy snacks in vending machines.

2. Teach students to value their time:
    - Teach time management skills.
    - Recommend self-monitoring by students (written time budgets monitored in journals).
    - Regularly assign timed sketch problems in class where faculty may observe and help students with time management skills.

3. Connect the studio with the outside world:
    - Assign required attendance at events outside of the Department which relate to ongoing studio projects.

4. Promote integrative learning:
    - Create studio projects in which students directly apply what they learn in lecture courses.

5. Develop students' design-thinking processes:
    - Situate buildings and their design process within a broader context of designed objects and the creative process in general.
    - Give explicit attention to the design-thinking process through lectures, readings and exercises.
    - Require the documentation and presentation of design process in drawings and models.
    - Assign projects with real clients and uses.

6. Emphasize collaboration over competition:
    - Assign team projects each year at each studio level.

7. Promote interdisciplinary interaction:
    - Create collaborative projects with other University departments.

8. Engage faculty in the academic life of the Department, College and University:
    - Hold weekly faculty meetings.
    - Hold a Department peer review the end of each academic year in which invited representatives of the AIA, alumni association, other schools of architecture, etc.; evaluate performance of administration, faculty and students.

- Prepare new faculty, including adjuncts, to meet the Department‘s mission: orientation program, faculty mentoring program.
- Maintain written curriculum goals for each studio (in addition to NAAB criteria) with yearly review and revision by faculty.

9. Take the mystery out of designing:
   - Syllabi: Clearly state learning objectives and assessment criteria.
   - Studio faculty: discussion with students of instructor‘s personal design philosophy (language, theoretical agenda, influences) and pedagogy.

10. Use methods of student assessment which promote learning:
    - Involve students in assessment: self-assessment, self-criticism, group critiques.
    - Following critiques provide a written summary of design‘s strong points and weak points (with suggestions for how to strengthen weak points).

11. Make critique a positive learning experience:
    - Use alternatives to the traditional review model where the student defends pinned up work before a panel of jurors: ―opening night‖ exhibitions with free-floating critics, publicly posted projects with comment sheets, etc.
    - Hold critiques outside of the Department.

12. Celebrate diversity and resist discrimination:
    - Expose students to demographic groups different from theirs.
    - Challenge dominant ideologies.
    - Uncover cultural invisibility: the unacknowledged contributions of minorities as designers, builders, owners and users of the built environment.
    - Assign projects which uncover and challenge discrimination based on race, gender, religion, sexual-orientation, socio-economic background and physical disabilities

13. Students‘ responsibilities:
    - Maintain a positive studio environment free of distractions
    - Attend studio classes, be punctual and remain in the studio until the end of class time
    - Arrive for each class prepared with textbook, supplies and in-progress work
    - Work in the studio, not at home or in other classrooms
    - Respect the physical facilities: keep studio floors and work surfaces clear of trash, throw away leftover food and drink and take care of furniture and equipment
    - Be respectful of faculty and staff: address faculty members and staff by their proper names, be cooperative and follow instructions in class
    - Complete course work on time
    - Juries: Remain present during entire session

I.1.3. Responses to the Five Perspectives

A. Architecture Education and the Academic Community

Academic and Professional Standards

The educational goals of the Architecture Program are consistent with the mission of Tuskegee University. The Program‘s academic and professional standards for both faculty and students are based on its mission to sustain Booker T. Washington‘s strategy of ―educating the hand and the mind together.‖ Washington‘s values of social responsibility, pragmatism and applied knowledge are the basis for the design philosophy of the Program.

In the past, the Department prepared an Annual Report which was presented to the Dean. This report was compiled with other reports from the other Departments within the College and then submitted to the President.

- Rosa Parks Museum
- Southern Poverty Law Center
- Tuskegee National Park Service (NPS)
- Tuskegee Human & Civil Rights Multicultural Center

knowledge, and motivate students to be successful in their prospective careers. In addition, it was to give the participating faculty opportunities to share information and develop alliances to help with like challenges.

- x Participation in SEED conference held at Howard University
- x NOMAS conference design competition which brings our students together with those of other HBCUs

B. Architectural Education and Students

Students' Involvement in their Learning Agenda: Students are involved in shaping their learning agenda and are given opportunities to sharpen leadership skills in several ways. Student meetings are held by the dean in which key issues are discussed and students are encouraged to voice their opinions. The current architecture course descriptions and Bachelor or Architecture curriculum were reviewed by students and their representatives prior to adoption. The Studio Culture Policy was created and developed with student input. It includes a requirement that faculty involve students in project evaluation through self-assessment, self-criticism and group critiques. In addition to creating the brief for their thesis project, students are given opportunities in

in the Architecture Program, but those months of experience may also count toward the three years professional experience that serves as a prerequisite to taking the licensing examination. Our students have been fortunate to have worked in top firms in cities such as Atlanta, GA; New Orleans, LA; Houston, TX; Baltimore, MD; New York, NY; and Chicago IL, Accra, Ghana and Munich, Germany.

D. Architectural Education and the Profession

The current mission statement of Tuskegee University, states its primary mission has been ~~to~~ prepare [students] to play effective professional and leadership roles in society and to become productive citizens in the national and world communities.‖ The mission also recognizes that it must do this for a community of students, primarily of African descent, who may require focused engagement and instructional ~~re~~inforcement‖ throughout the educational process.

Consistent with its mission, the university has recently made a commitment over the next few years to strengthening the communication and critical thinking skills of all its students by establishing uniform goals within the core curriculum (liberal arts education offerings) of all of its academic programs. This would be achieved primarily in the first two years of each program. This is also consistent with our desire to improve the development of critical thinking skills of students throughout the architecture program – in preparation for their fifth year thesis courses.

In effectively preparing students for life after Tuskegee, we recognize that not only does this include the profession, i.e. interning, but consistent with general trends in higher education, this also includes graduate school. As we focus on better tracking of our graduates as a key priority, the general observation suggests that more of our students are pursuing graduate education – both from construction science and architecture. For

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The region surrounding the campus is the cradle of the Civil Rights Movement in the United States and contains

To support the enrollment process and initiative, the School will create a plan for an online system for annually gathering and analyzing data on its graduate, their IDP progress, ARE rates, non-arch career paths etc. all as a part of the School‘s effort to increase its enrollment.

Physical Resources: For the projected enrollment growth, the School will require additional physical space. Current newly renovated physical facilities – Willcox A & Willcox C - provide appropriate present student body‘s space requirements. Proposed additional, future changes are described in Section I.2.3 Physical Resources.

Public Good & Outreach: In an effort to enhance and project its image, interactions with campus departments and area communities, the School plans

pertinent by the applicant, his/her department chairperson, and dean/unit head. The dossier should be prepared with the realization that volume does not necessarily imply substance.

It is the responsibility of the faculty member who is being considered for tenure to ensure that his/her dossier is prepared for review during his/her sixth academic year of employment (or the year before his/her probationary period ends, as appropriate). Dossiers of applicants being considered for academic tenure are submitted to the College Personnel Committee by the Chair of the Department of which the applicant is a member. The College Personnel Committee evaluates the information and materials, supplementing them, when required, with its own investigation, and forwards all of its materials, along with it recommendations, for or against tenure to the Academic Personnel Services Committee. All applications must be received by the Academic Personnel Services Committee no later than the end of the first semester of the sixth year of full-time employment (or other period as appropriate depending upon the applicant‘s probationary period). All recommendations of the Academic Personnel Services Committee shall be forwarded to the Provost no later than February 1. The Provost reviews the recommendations, makes an evaluati

Among the faculty members there are six registered architects, one of whom is also a certified planner (AICP). Faculty members with professional licenses remain current in their knowledge of their fields in several ways, including continuing education courses, attendance at workshops and engagement in professional activities. The School of Architecture provides limited funding for faculty attendance at ACSA, AIA, NOMA and other professional organization conferences each year.

Funded Development Programs

Since the last accreditation visit the Architecture Program has written several proposals and received grants for $8,800.00 and $15,000.00 from the Alabama State Board for Registration of Architects to expose students and area professionals to current HSW related topics and practices.

Table 3. School of Architecture Faculty Members (2010 - 2011 AY)

Name	Tenure Status	Rank	Time	Courses Taught	Primary Prof. Field	Education
Ames, John C.	NT	Assistant	FT	3rd Yr. Studios, Materials, Theory	Architecture	

maintain a network of prospective employers who would participate in the Internship Program. The School is in the process of evaluating the conditions of the requirements. The School is also in the process of evaluating methods that will help us to effectively evaluate how well the internship exposed the student to critical practice

Each year the students that participate in NOMAS and AIAS develop a yearly calendar of events. Seminars, community service and other events are designed to foster a desire for lifelong learning, increased interaction between the students and the faculty, and extracurricular bonding between the Upper and Lower Division students. The following is an example of a typical year of activities:

- August/September: Fashion Show -Speed Dating-Bake Sales-

- x General Departmental administration and management of activities including registration, faculty, staff, travel, vacation, leave, physical facilities etc.
- x Department‘s spokesperson to the architectural and construction organizations, and community groups at large.

August 2010-Present: In July, 2010, outgoing Tuskegee President Dr. Benjamin Payton announced the transformation of the Department of Architecture into a new academic unit, The Robert R. Taylor School of Architecture. The change of the academic unit from department to school provides the home of the BArch Program with far greater autonomy than previously. The School is an independent unit with the University and is no longer within CEAPS.

The School of Architecture, as did the Department, contains two degree programs: the Architecture Program and the Construction Science and Management Program. The School is administered by three administrators: the Dean of the School, the Director of the Architecture Program, and the Director of the Construction Science and Management Program. The directors report to the Dean.

The School and the Architecture Program are currently developing the new administrative structure for the School and it is anticipated that the new directors will be appointed and in place for the beginning of the fall 2010 semester. Some links with CEAPS will be maintained in the short term until the new School is fully up and running.

I.2.3. Physical Resources

The Department of Architecture‘s physical plant currently consists of three buildings on the University campus: the Willcox A Building, the Willcox C Building and a portion of the Willcox E Building. Willcox C houses the School‘s administration offices, faculty offices, a small lecture room, the architecture library, computer output lab and two large spaces used for freshman studios. The recently renovated Willcox A contains second year through fifth year design studios, a large lecture room, seminar room, computer lab, exhibit space, jury space and an office suite for the Director of Architecture

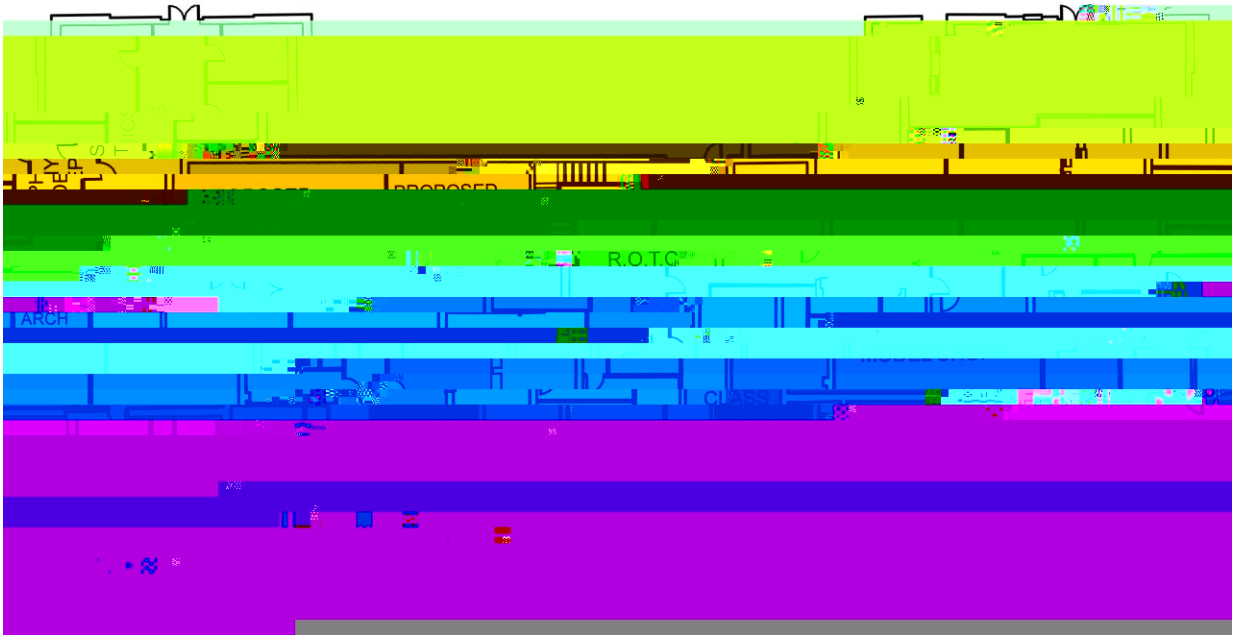


Figure 5: Willcox E Building Floor Plan

Planned Renovations: The School anticipates no large scale renovations, additions or changes to the physical facilities in the near future. However, some minor work may be done to expand the model shop and to build shelving in the room now designated for project storage in Willcox A (this room was originally planned to be used as a student lounge, which will now be located in Willcox C).

Computer Resources: The School has two computer labs and a laser cutter room. There are also computer stations in the 2nd, 3rd, 4th and 5th year studios in Willcox A and four student workstations in the Architecture Library - two of them belonging to the Library, two to the Department. Ongoing planning for

I.2.4. Financial Resources

Table 6. Architecture Department Budgets: 2009-2013

Faculty	2009	2010	2011	2012	2013
Salaries and Fringe	902,948.00	871,817.00	1,222,774.00	1,259,457.00[9]	1,297,240.00
Department Operating	20,100.00	20,100.00	30,000.00	31,000.00[I]	31,980.00
Lab Supplies	7,000.00	7,000.00	15,600.00	15,600.00	15,600.00
Professional Development	21,600.00	21,600.00	24,100.00	24,100.00	24,100.00
Postage	300.00	300.00	300.00	300.00	300.00
Memberships	19,000.00	19,000.00	25,000.00	20,000.00	20,000.00

Table 7. Library Staff Budgets: 2009 AY-2011AY

2010-11 Budget: Staff & Work-Study Students	2009-10 Budget: Staff & Work-Study Students	2008-09 Budget: Staff & Work-Study Students

Table 11. Retention Rates

Retention rates after two years by major for fall 2008 entering freshmen

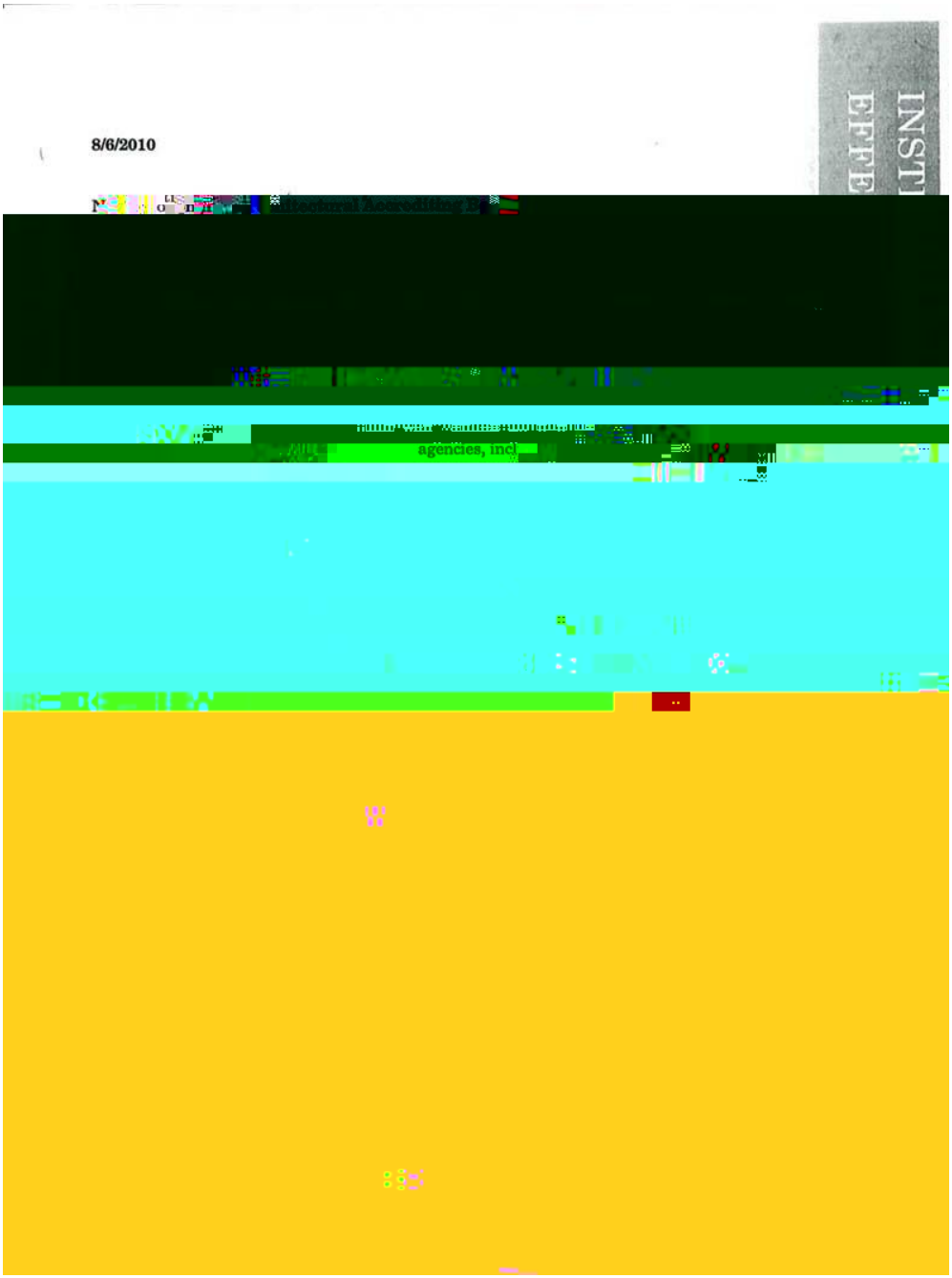
(College of Engineering, Architecture and Physical Sciences)

Major	Entering Fall 2008 Freshmen	Returned for Fall 2009	% Changed Major	First-year Retention Rate
Aerospace Sci Engn	16	10	6%	63%
Architecture	36	18	3%	50%
Chemical Engn	18	15	0%	83%
Construction Sci & Mgt	2	2	100%	100%
Electrical Engn	37	26	3%	70%
Materials Sci & Engn	NA	**	**	**
Mechanical Engn	31	17	10%	55%
Physics	1	1	100%	100%

Mechanical Engn	23	12	4%	52%
Physics	1	1	0	100%

I.3.2. Annual Reports

Letter certifying accuracy of statistical data sent to NAAB:



I.3.3. Faculty Credentials

Table 12. Faculty Credentials

Faculty Member	Summary: Expertise, Recent Research & Experience
John Ames	Registered architect with experience in each phase of project development.

Faculty Member	ARCH 102	ARCH 202	ARCH 221	ARCH 302	ARCH 332	ARCH 342	ARCH 344	ARCH 345	ARCH 352	ARCH 402	ARCH 414	ARCH 502	ARCH 534
John Ames				X	X								
Donald Armstrong							X			X			

Table 14. Faculty Teaching Assignments: Fall 2009

Faculty Member	ARCH 101	ARCH 201	ARCH 221	ARCH 252	ARCH 301	ARCH 331	ARCH 341	ARCH 343	ARCH 366	ARCH 401	ARCH 423	ARCH 443	ARCH 501	ARCH 503	ARCH 521	ARCH 523

Table 15. Faculty Teaching Assignments: Spring 2010

- Square feet per faculty member for space designated for support of all faculty activities and responsibilities.
- Admission Requirements
- Advising Policies
- Policies on use and integration of digital media I architecture curriculum
- Policy on academic integrity for students (e.g. cheating and plagiarism)
- Policy on li ac(p)-9(5(ag[(P)4(85)-10(ac]3 62<)-9(ts)-4((l)2 Tm0 0 1 170.54/9399i)5BT1 3ou)-9(gram)-22()-

- Provide a cumulative, comprehensive learning experience which prepares the graduate for becoming a licensed architect
- Sustain the enduring principles on which TU was founded: service to underrepresented communities, self-reliance and educating the hand and the mind together
- Provide a balance of professional and liberal arts courses
- Place the design studio at the center of the learning environment
- Maximize learning transfer from lecture courses into studio courses
- Provide electives which allow students to pursue personal interests

In order to gradate the outcomes, studio projects increase in complexity across years 1-5, based on the following factors:

- Program/Use (factors are: number of occupants/functions, number and complexity of environmental factors attached to each function, etc.)
- Site/Context (number and complexity of site factors – topography, climate, vegetation, codes, perception - to be addressed)

Studio learning outcomes are presented in the Program‘s Studio Curriculum document which is annually reviewed and revised.

Table 16: Student Performance Criteria Matrix

Most recent letter certifying SAC accreditation:

II.2.2. Professional Degrees and Curriculum

The program under consideration for accreditation is the five-year Bachelor of Architecture (BArch) degree. This degree is based on a 2 + 3-

Architecture Program and the last three the Professional Program. The Pre-Architecture Program provides students with the proper foundation in general education courses, such as English composition,

The School of Architecture has made the following required documents available in the Architecture Library located in Willcox C Room 100:

- x 2009 Annual Report and Statistical Report
- x Final decision letter from NAAB
- x 2010 APR
- x 2008 Visiting Team Report

II.4.5. ARE Pass Rates

This information is available on the Department of Architecture website at:
- http://www.tuarch.net/are-pass_rates.pdf

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Part Three. Progress Since Last Site Visit

1. Summary of Responses to the Team Findings [Year]

A. Responses to Conditions Not Met

Condition 3.3 Public Information

2004 Conditions for Accreditation : To ensure an understanding of the accredited professional degree by the public, all schools offering an accredited degree program or any candidacy program must include in their catalogs and promotional media the exact language found in the NAAB Conditions for Accreditation, Appendix A. To ensure an understanding of the body of knowledge and skills that constitute a professional education in architecture, the school must inform faculty and incoming students of how to access the NAAB Conditions for Accreditation.

Comment from previous VTR [2008]: The 2008 Visiting Team found this condition not met. The APR states that the language in Appendix A of the 2004 NAAB Conditions was placed on the university website in the spring of 2007, but following the revocation of accreditation in March of 2007, it was removed. It further states that when candidacy status was received, The NAAB text for candidate programs was added to the website. The team found no evidence that this occurred, and the statement is not currently displayed on the website or in promotional materials. The program indicated that they would endeavor to get it on the website immediately.

In deference to the program, the university has not reprinted the University Bulletin since the 2004-2006 addition. The program assured the team that the required NAAB text will be placed in the next printing of the Tuskegee University Bulletin of Courses and Programs, on the University website, and all future promotional materials.

Response from Program [2010]: In addition to posting the required public notice the Department has complied with each of the requirements of public information outlined in section IV.4.

Criteria 3.14 Accessibility

2004 Conditions for Accreditation: Ability to design both site and building to accommodate indiv( )] 0 0 1 144.02 2 Tm 6rtmoda32(r)3(A)-10 BT 1 04.02 247.7Ae invoht ETf3(ed)9(i)5

ARCH 102: Beginning in spring 2010, accessible design was introduced in ARCH 102. Student projects addressed the basic principles of creating an accessible path including clearances and using ramps at elevation changes.

Part Four: Supplemental Information

IV. 4 Course Descriptions

ARCH 211 Presentation, 3 credits.

Course Description: This course provides a survey of the presentation methods used by architects to communicate design ideas. Students explore various two and three dimensional media, including digital methods. An emphasis is placed on making as a mode of critical inquiry into material and technique. The course is presented in such a way as to be directly applied in the congruent ARCH 201 design studio.

Course Goals and Objectives:

- Understanding of conventional graphic techniques in the presentation of architectural design work
- Understanding of manual and digital tools and computer applications used in presentation of design work
- Ability to compose and present architectural desi

ARCH 221 People and the Built Environment, 3 credits.

Course Description: This is an introductory course in the people and the built environment studies. It broadly covers certain basic areas of study and seeks to develop an understanding of the built environment based on architecture and urban design, how it is created and how it affects human life. The objective of the course is to introduce to the students the range of issues involved in the analysis, design and production of the built environment, emphasizing the interaction between these issues and people.

Course Goals and Objectives:

- The students will be exposed to an understanding of the built environment and various factors shaping and affecting it.

ARCH 252 History of Architecture I, 3 credits.

Course Description:
This is a survey of the development of Architecture from ancient civilizations through the Middle Ages; through the analysis of exemplary buildings between those periods and the historical circumstances surrounding them.

Course goals and Objectives:

ARCH 301 Architecture Design Studio, 6 credits.

Course Description: Students apply the knowledge taught in concurrent lecture courses in structures, materials and environmental systems in their studio project assignments. New computer skills are introduced.

Course Goals and Objectives:

- Ability to analyze site, context and precedent in developing a building design.
- Understanding of structural systems and the role they play in inserting logic and order into the design process
- Understanding of the considerations involved in selecting building service systems as well as building materials and assemblies.
- Ability to use hand drawing and modeling combined with computer modeling to explore, develop and communicate design intent.

Student Performance Criteria:
A.6. Fundamental Design Skills
B.2. Accessibility
B.3. Sustainability

Topical Outline:
Preliminary analysis skills (30%)
Computer and hand design development skills (60%)
Presentation skills (10%)

Prerequisites:
Admission into the professional program

Textbooks:
Allen & Iano $ U F K L W H F W ¶ V 6 W U X F W X U H V (John Wiley && Sons) D Q L R Q

Offered:
Fall only; annually

Faculty Assigned:
John Ames (F/T)
Patrick Rhodes (F/T)

ARCH 302 Architecture Design Studio, 6 credits.

Course Description: Continued application in studio of concepts learned in concurrent lecture courses in structures, materials and environmental systems with added complexity in terms of site constraints and building program.

Course Goals and Objectives:

- Ability to analyze site, context and precedent in developing a building design.
- Understanding of structural systems and the role they play in inserting logic and order into the design process
- Understanding of the considerations involved in selecting building service systems as well as building materials and assemblies.
- Ability to use hand drawing and modeling combined with computer modeling to explore, develop and communicate design intent.

Student Performance Criteria:

ARCH 331 Materials of Construction I, 3 credits.

Course Description: First of two lecture courses covering materials and methods of construction and building envelope systems, including an historical overview of their evolution as well as considerations for sustainability.

Course Goals and Objectives:

- Understanding of the considerations involved in selecting building materials and assemblies.
- Understanding of sustainable practices in building design and construction.

Student Performance Criteria:
B.10. Building Envelope Systems
B.12. Building Materials and Assemblies

Topical Outline:
Historical overview of building materials and envelope systems (10%)
Properties of building materials and envelope systems (60%)
Sustainable design and construction practices (30%)

Prerequisites:
Admission into the professional program

Textbooks:
Edward Allen and Joseph Iano, Fundamentals of Building Construction Materials and Methods (fourth edition), John Wiley & Sons

Offered:
Fall only; annually

Faculty Assigned:
John Ames (F/T)
Patrick Rhodes (F/T)

ARCH 332 Materials of Construction II, 3 credits.

ARCH 341 Environmental Control Systems I, 3 credits.

ARCH 342 Environmental Control Systems II, 3 credits.

Course Description:
This course, the second in a two-course sequence, covers electricity, illumination, signal systems, transportation, and acoustics. A historical overview of these systems is provided. They are presented in a context of sustainable design with an emphasis on hybrid active/passive design strategies. This two-course sequence concludes with an overview of the integration of environmental control systems into the building whole. The course content covered is presented in such a way as to be directly applied in the ARCH 0302 design studio.

Course Goals and Objectives:

- An understanding of the basic principles of lighting (including day-lighting and electrical lighting

ARCH 343 Structures I, 3 credits.

Course Description: This course, the first of a three-course sequence, covers wood structural systems. The course content includes mechanics and strength of wood structures, types of wood structural members, and the design and analysis of wood structural systems.

Course Goals and Objectives:

- The student will understand mechanics and the strength of materials as related to wood structures
- The student will understand the basic types of wood structural members including foundations, columns, stud walls, decking, floor joists, roof rafters, beams, trusses, and lateral resisting elements
- The student will understand wood structural connections including nails, bolts, screws and special connectors
- The student will be able to design a complete wood structural system for a small building including preliminary (rule of thumb) sizing of members
- The student will be able to make a detailed (calculated) design or analysis of selected wood structural members

Student Performance Criterion:
B.9. Structural Systems

Topical Outline:
Families of wood structural elements and systems (20%)
Mechanics and strength of materials for wood structures (20%)
Structural investigation: analysis and design (60%)

Prerequisites:
ARCH Professional Program admittance, MATH 108 and PHYS 306.

Textbooks:
Place, Wayne. Architectural Structures)
Charleson, Andrew. Structure as Architecture
Allen Edward & Iano, Joseph. 7 K H $ U F K L W H F W ¶ V 6 W U X F W X U H Fourth Edition & R P S D Q L R Q

Offered:
Fall only; annually

Faculty Assigned:
Don Armstrong (F/T)
Jose Colmenares (F/T)

ARCH 344 Structures II, 3 credits.

Course Description: This course, the second in a three-course sequence, covers steel and tensile structural systems: mechanics and strength, types of structural members and structural investigation (design and analysis).

Course Goals and Objectives:

- The student will understand mechanics and the strength of materials as related to steel structures
- The student will understand the basic types of steel structural members and systems including lightweight wall studs, lightweight floor joists, standard and tube columns, floor and roof decking, beams and girders, open-web joists, single-story rigid steel frames and trusses
- The student will understand steel structural connections
- The student will be able to design a complete steel structural system for a small building including preliminary (rule of thumb) sizing of members
- The student will be able to make a detailed (calculated) design or analysis of selected steel structural members

Student Performance Criterion:
B.9. Structural Systems

Topical Outline:
Families of steel structural elements and systems (20%)
Mechanics and strength of materials for steel structures (20%)
Structural investigation: analysis and design of steel structures (60%)

Prerequisites:
ARCH Professional Program admittance, ARCH 343, MATH 108 and PHYS 306.

Textbooks:
Ching, D. K. Building Structures Illustrated
Allen Edward & Iano, Joseph. 7 K H $ U F K L W H F W ¶ V 6 W U X F W X U H V Fourth Edition & R P S D Q L R Q

Offered:
Spring only; annually

Faculty Assigned:
Don Armstrong (F/T)

ARCH 345 Computer Applications I, 3 credits.

Course Description: To provide the basic skill set in 2D-Graphics & 3D-Modeling: see, think, draw; to build a vocabulary in order to execute a drawing from a written tutorial; to familiarize students with different design software used in design studios.

Course Goals & Objectives:
The goal of this class is to familiarize students with basic digital media design and facilitate their use for architectural endeavors.
At the end of the course, if you are a beginner, you will:
1. Understand the basic principles and operations of Adobe Systems for raster and vector graphics and similarly the basic geometry that regulates architectural compositions.
2. Understand the basic principles and operations of Autodesk AutoCAD Systems for drafting and similarly the drawing process of the constructed architectural drawing through the tools of orthographic projections.
If you are a non beginner, you will also:
3. Understand the 3D modeling for representation and presentation of Autodesk Revit Systems and investigates BIM.
4. Understand how to create complex arch forms beyond traditional ways.

Student Performance Criteria:
A.3. Visual Communication Skills

Topical Outline: % of time spent in each subject area
The typical timeline in the session is allocated as follows:
a. 20% - instructor communication (lecture, special problems, etc.)
b. 40% - student presentation or lab work
c. 40% - special assistance to students who need help.

Prerequisites:
None

Blackboard/ Learning Resources: No textbook, most of the tutorials will be found online or posted in Blackboard. Information, Discussion, Tests will take place in Blackboard.

Offered (semester, year):
Spring only; annually

Faculty Assigned (during these last two years):
Kwesi Daniels (Instructor)
Edouard Din (Associate Professor)

ARCH 352 - History of Architecture II, 3 credits.

Course Description:
This is the second part of a two course sequence on the History of Architecture; surveying architects, architectural styles, trends and movements, from the 15th century to the present.

Course goals and Objectives:
Upon successful completion of this course, the student should be able to understand cultural and historical concepts related to human habitation applied to architectural style, form, structure and function. Through slide lectures and in-class discussions, students will acquire skills to visually analyze buildings. Equally important to the class is the development of research and critical-thinking skills through several assignments including quizzes and papers.
Upon completion of this course, one should be able to:

- Identify and discuss major developments in architecture of each period.
- Increase the use of architectonic language in his/her analytical abilities as well as develop written and verbal communication and presentation skills.
- Better discuss and analyze architecture, using conventions of architectural communication and visual analysis.
- Inform oneself with a better sense of architecture, place, time and history.

Prerequisites:
ARCH 252 – History of Architecture I

Student Performance Criteria:
A.9 Historical Traditions and Global Culture

Textbook:
Moffet, Marian / Fazio, Michael, Wodehouse Lawrence –Buildings Across Time-An Introduction to World

ARCH 4366 Sustainable Design, 3 credits (Elective).

Course Description: Covers the man-made causes of pollution and climate change, the growth of the environmental movement, sustainable strategies in architecture and urban design, green building programs and life cycle assessment.

Course Goals and Objectives:

- Understanding of the causes of climate change and pollution and their effects on human health and on the planet.
- Understanding the contribution of buildings and construction to these environment problems
- Understanding the options available to the architect for creating sustainable buildings and communities by the effective use of resources combined with passive and active solar design strategies.
- Understanding the impact of daylighting devices on interior light levels.
- Ability to analyze life cycle environmental impacts

ARCH 402 Architecture Design Studio, 6 Credits.

Course Description: This second part of the fourth year course in the design studio sequence continues the development of a comprehensive building design p 0.24 g24 g24 g24 g24 g24 g24

ARCH 414 Construction Documents, 3 credits.

Course Description: Covers the basic principles guiding the development of construction documents, which consist of working drawings and specifications, including building code analysis.

Course Goals and Objectives:

- Ability to produce preliminary architectural working drawings and outline specifications for a moderately sized building.
- Understanding of the coordination of various disciplines needed to produce construction documents.

Student Performance Criteria:
A.4. Technical Documentation

Topical Outline:
Required drawings and delineation conventions (30%)
Graphic standards, numbering, dimensioning and note conventions (20%)
Drawing coordination, schedules and details (30%)
Outline specifications (20%)

Prerequisites:
Arch 302, Arch 331 and Arch 332

ARCH 443 Structures III, 3 credits.

Course Description: This course, the final course in a three-course structures sequence, covers masonry and reinforced concrete structural systems. The course content includes mechanics and strength of structural members and systems, types of structural members and systems and design and analysis of a structural system including the sizing and layout of components.

Course Goals and Objectives:

- The student will understand mechanics and the strength of materials as related to concrete and masonry building structures
- The student will understand the basic types of reinforced concrete and masonry structural

ARCH 502 Thesis Studio, 6 credits.

Course Description:
In this course the student implements the thesis developed in the ARCH 0503 Thesis Seminar course. The student is allowed wide latitude in the type of project undertaken. An emphasis is placed on critical thinking, originality, ethical design and perceptual sensitivity.

Course Goals and Objectives:

- Ability to develop and integrate building systems with the spatial, theoretical, and contextual ideas of architecture.
- Ability to demonstrate technical competence within a framework that encompasses social and environmental issues related to design.
- Ability to produce an architecture project informed by a comprehensive program as developed by

ARCH 503 Thesis Seminar, 2 credits.

Course Description:
This course prepares the professional degree candidate for thesis execution, which occurs during the second semester. During this course, students will select a thesis topic and perform thesis research. Prior to beginning thesis research, however, the following topics will be explored through class discussion: (a) Purpose of the thesis program, (b) architectural theory overview, (c) research techniques, and (d) a review of compositional techniques. By the end of this course, the thesis research and project program document will be completed.

Course Goals and Objectives:
- Ability to articulate a thoughtful philosophy of design
- Ability to write a Thesis Document that is thorough, lucid and well researched.