Montana State University

Interim Progress Report for 2016

Instructions and Template

[November 30, 2016]

Contents

1. INSTRUCTIONS AND TEMPLATE GUIDELINES

Purpose

Continuing accreditation is subject to the submission of interim progress reports at defined intervals after an eight-year or four-year term of continuing accreditation is approved.

This narrative report, supported by documentation, covers three areas:
1. The program's progress in addressing not-met Conditions, Student Performance Criteria, or Causes of Concern from the most recent Visiting Team Report.
2. Significant changes to the program or the institution since the last visit.
3. Responses to changes in the NAAB Conditions since your last visit (Note: Only required if Conditions have changed since your last visit)

Supporting Documentation

1. The narrative should describe in detail all changes in the program made in response to not-met Conditions, Student Performance Criteria, and Causes of Concern.
2. Provide information regarding changes in leadership or faculty membership. Identify the anticipated contribution to the program for new hires and include either a narrative biography or one-page CV.
3. Provide detailed descriptions of changes to the curriculum that have been made in response to not-met Student Performance Criteria. Identify any specific outcomes expected to student performance. Attach new or revised syllabi of required courses that address unmet SPC.
4. Provide additional information that may be of interest to the NAAB team at the next accreditation visit.

Outcomes

IPRs are reviewed by a panel of three: one current NAAB director, one former NAAB director, and one experienced team chair.[1] The panel may make one of three recommendations to the Board regarding the interim report:
1. Accept the interim report as having demonstrated satisfactory progress toward addressing deficiencies identified in the most recent VTR.
2. Accept the interim report as having demonstrated progress toward addressing deficiencies but require the program to provide additional information (e.g., examples of actions taken to address deficiencies).
3. Reject the interim report as having not demonstrated sufficient progress toward addressing deficiencies and advance the next accreditation sequence by at least one calendar year but not more than three years, thereby shortening the term of accreditation. In such cases, the chief academic officer of the institution will be notified and a copy sent to the program administrator. A schedule will be determined so that the program has at least six months to prepare an Architecture Program Report. The annual statistical report (see Section 9 of the 2014 Conditions) is still required.

Deadline and Contacts

IPRs are due on November 30. They are submitted through the NAAB's Annual Report System (ARS). Contact Kesha Abdul Mateen (kabdul@naab.org) with questions.

Instructions

1. Type all responses in the designated text areas.
2. Reports must be submitted as a single PDF following the template format. Pages should be numbered.
3. Reports are limited to 25 pages/10 MBs.
4. Supporting documentation should be included in the body of the report.
5. Student work is not to be submitted as documentation for a two-year IPR.

2. EXECUTIVE SUMMARY OF 2014 NAAB VISIT

[1] The team chair will not have participated in a team during the year in which the original decision on a term of accreditation was made.

CONDITIONS NOT MET

2014 VTR
None

STUDENT PERFORMANCE CRITERIA NOT MET

2014 VTR
B.6 Comprehensive Design

CAUSES OF CONCERN

2014 VTR
Leadership & Faculty Stability
Opportunity for additional Digital Instruction
Shop Safety
Accessibility
Sustainability

3. TEMPLATE

Interim Progress Report

Montana State University
School of Architecture
M. Arch. [undergraduate degree + 42 credits]
Last APR submission: September 2013
Year of the previous visit: 2014

Please update contact information as necessary since the last APR was submitted.

Chief administrator for the academic unit in which the program is located: Dr. Royce Smith

Provost: Dr. Robert Mokwa

President of the institution: Dr. Waded Cruzado

Individual submitting the Interim Progress Report: Andrew Vernooy AIA

Name of individual(s) to whom questions should be directed: Andrew Vernooy AIA

Current term of accreditation: 8 year term

Text from the most recent VTR or APR is in the gray text boxes. Type your response in the designated text boxes.

a. Progress in Addressing Not-Met Conditions and Student Performance Criteria

B.6 Comprehensive Design
2014 Visiting Team Assessment: Students demonstrate abilities in the individual Student Performance Criteria related to comprehensive design; however, there is a lack of evidence demonstrating their ability to produce singular, comprehensive architectural projects that integrate all of these individual criteria across scales. In particular, the team noted a lack of integration of SPC A.4, B.2, B.4, and B.5.

While certain technical criteria are met, even with distinction, in work generated in support courses, these same criteria are not met or only partially met in the design studio intended to produce comprehensive design projects. The faculty members have indicated that they plan to reintroduce the graduate thesis in the next substantive change to the curriculum, which might offer the faculty a chance to address comprehensive design alongside this curricular change.

Montana State University, 2016 Response: In order to emphasize the interaction between Comprehensive Design Studio, ARCH 558, the design process, sustainability and Advanced Systems Integration, ARCH 535, we linked these two courses together (Syllabi are attached). Exercises for ARCH 535 parallel design decisions in the studio and students are required to demonstrate how building system content influences their design decisions during their studio reviews. Further, students in the systems course will keep a notebook that records the technical topics taught and how they influenced the design process; it will be graded at the review of each phase of the project. ARCH 558 is organized in three phases: Gathering/Processing, Producing, and Presenting that require site analysis and response, the integration of building system content, sustainability, accessibility, life safety and design process thinking, regarding all of the technical issues associated with a Comprehensive Design Studio, at each phase of the semester. During the Production phase life safety and accessibility codes are investigated. The design results of this investigation must be presented in the final phase. The connection with ARCH 535 is emphasized in the requirement list for each phase of the project. This course requires specific exercises in site design, technical writing, wall sections and details that are integrated into the individual studio design of the students. Finally, all students are required to produce a booklet for the studio that documents their design process, including diagrams, drawings, photographs of massing and study models with 2D and 3D information that demonstrates iterative work with ordering systems, building systems and design thinking skills.

b. Plans for/Progress in Addressing Causes of Concern

- **Leadership & Faculty Stability**

2014 Visiting Team Comments: 1. Interim Director: The team is very concerned that since the last visit there has been interim leadership and that this situation continues. The College of Arts and Architecture has a new dean in place and now movement should be made by the school, college and university to seek and name a permanent director of the school.

2. Faculty turnover: The school enjoys a cadre of 18 full-time faculty. The majority of the faculty has been here for many years and over time will be considering retiring. Three junior faculty are leaving at the end of this academic year to pursue other opportunities. The dean has authorized the hiring of three replacements, and two have already signed contracts. A third is in the

negotiating process. The team encourages the administration of the college and the university to continue to support the influx of new junior faculty as senior faculty retire.

3. Succession planning: While the school enjoys long tenure from a number of key faculty, there is a concern the school may not be prepared for any departures. Importantly, these faculty members provide instruction in many of the core subjects and studios. Any departures, especially unforeseen or short term, could detract from education quality until satisfactory replacements are made. The school is encouraged to create a succession plan complete with action steps and, if possible, identification of potential candidates.

Montana State University, 2016 Response: With the appointment of Andrew Vernooy AIA there is a non-interim Director as the head of the School. To fill the gaps, the School has hired three new members of the faculty: Susanne Cowan for History, Jaya Mukhopadhyay for Environmental Controls, and Andrew Vernooy for Structures and as the new Director (CVs are attached). The first two Assistant Professors are tenure track; Jaya is in her second year and Susanne has just had a successful third year review. The School is planning the succession for three members of the faculty, who have at some time in the recent past, expressed some interest in retiring—one after FY 2018, one after FY 2019 and one after FY 2020. Currently, there is an interest in hiring an Assistant Professor who can bring digital design and fabrication to the core of the School with the potential to work with the College of Engineering. The University has a new Interim Provost, Dr. Robert Mokwa, and the College of Arts and Architecture has a new Dean, Dr. Royce Smith (CVs are attached).

- **Opportunity for additional Digital Instruction**

2014 Visiting Team Comments: Students have access to 12 computer laboratories housing over 379 computers within the university, but no computer laboratories within the School of Architecture. There is an understanding that students are required to purchase and bring their own computers with the necessary software. Students are introduced to a minimal amount of instruction on these computer programs, but students have expressed a concern for additional computer education.

Montana State University, 2016 Response: In the interim, the School lost its IT staff to the College and the funds for continuing a high end computer lab for student use were not forthcoming from the University. The IT staff, responsible for equipment, output and software for four schools has not been able to keep up with the demands of the School of Architecture. This spring, 2017, the School will be able to hire a new IT staff person. As support for a computer lab was not available, the School had to make a choice between digital design and fabrication equipment and maintaining a lab. The School chose to invest in CNC equipment, including laser cutters, a gantry router and 3D printers. There are plans to hire a tenure track position that will be an expert in architecture design and digital fabrication. Wit recent improvements in the shop, we are set to build a culture of digital design and fabrication that runs through the School. The University did upgrade one of the larger classrooms to support digital instruction. This class room, the Technology Enhanced Active Learning (TEAL) classroom, affords docking and media integration for a full cohort of our students—63.

- **Shop Safety**

2013 Visiting Team Comments: The team notes that the program has reduced the number of student workers who assist in the operation of the woodshop, an integral component to the production of student work, ranging from full-scale furniture and architectural products to smaller-scaled architectural models. This reduction in student workers has resulted in reduced hours of operation for the woodshop and a reduction in supervision when the shop is open. This particular cause of concern carries with it implications for student health, safety, and welfare, as a reduction in staff could increase the potential for serious accidents and injury. The team notes, however, that the shop maintains policies and procedures for safety, shop safety training for students, safety equipment such as ear plugs and safety goggles, and shop equipment with safety features, such as Saw Stop table saws. This cause of concern is one of staffing capacity, not of policies, procedures, or equipment.

Montana State University, 2016 Response: Since our accreditation visit, the student labor budget of $20,000 was reinstated for the school's use. The majority of this budget was allocated for the craft lab (shop), laser cutting and 3D modeling service center and the print center. Robert Clemens resigned as the Equipment & Facility Manager. Sean Clearwater was hired into this position (position description is attached) and in cooperation with Bill Clinton, Facility Manager and instructor, a reorganization of the duties of these respective staff members allowed for permanent staff to oversee the majority of the craft lab usage thereby reducing the need for student labor employees working in the craft lab. Sean's FTE was also increased to .75 during the academic year. As part of this review and reorganization of services, additional student labor employees have been hired to staff the laser cutting and 3D modeling service center. This allows for the permanent staff to schedule more hours in the craft lab. Sean has significant experience working with tools, execution of projects and instructing young adults. He has made a big difference in the safety of the shop—conducting presentations on correct equipment use for example—and he has made a big difference on the sophistication of the work that the students produce.

- **Accessibility**

2013 Visiting Team Comments: Accessibility, although met, is an area the school should strengthen. As part of the building codes, projects must be able to demonstrate that they can accommodate the needs of individuals with physical, sensory, and cognitive disabilities. While the work of ARCH 340 – Building Construction II showed evidence of this ability, the work in other courses showed a marginal development of accessible design.

Montana State University, 2016 Response: The School has changed its pedagogical approach for accessibility related design decisions. Rather than treating these requirements in a single course, we have decided to introduce them in the spring studio of second year and focus on ADA in both studios of the third year with specific design exercises associated with their studio projects. In this manner, designing for accessibility becomes a naturally integrated part of the design process at the same time that students are learning to integrate structure and mechanical systems.

- **Sustainability**

2013 Visiting Team Comments: The school and the students are very aware of the principles of sustainability. Environmental Controls classes show a good understanding of these principles, and the student projects show knowledge of the complex and innovative systems in use. Some of the students are actively involved in the USGBC school chapter along with the engineering students. Although there was evidence that this criterion was met, the visiting team would have

expected this knowledge to be shown consistently in all work after the subject was introduced to the students, starting with the basic principles of sustainability such as building orientation and solar controls. The relationship between the architectural and engineering students through the USGBC chapter lends itself to interdisciplinary projects. There was no evidence that this relationship has been fully taken advantage of.

Montana State University, 2016 Response: In order to address the new level of sustainability and environmental stewardship as a Defining Perspective, the School has adopted the metaphor of a ladder, where acumen for responsible energy use and material selection is introduced early and reinforced at each rung of the curriculum. Solar movement and attendant energy concerns are introduced in the spring of second year. More sophisticated energy and sustainability concerns are addressed in Environmental Control Systems courses, ARCH 331 and ARCH 332, taught in the first and second semester of third year, respectively. The capstone for this effort is a specific course on Sustainability, ARCH 431, (the course description is available upon request), which is taught in the fall of fourth year; this is a new course—summer and fall of 2016.

c. Changes or Planned Changes in the Program

Please report such changes as the following: faculty retirement/succession planning; administration changes (dean, department chair, provost); changes in enrollment (increases, decreases, new external pressures); new opportunities for collaboration; changes in financial resources (increases, decreases, external pressures); significant changes in educational approach or philosophy; changes in physical resources (e.g., deferred maintenance, new building planned, cancellation of plans for new building).

Montana State University, 2016 Response: • Thanks to funds raised by the Advisory Council, involvement with practicing architects has increased to include visiting studio consultants and a Visiting Critic Studio. This year five studios have modest but formal relationships with the profession.

• The School is in the process of updating student fees in order to meet the University's need to assess the current level of program fees across campus.

• There is new pressure on the allocation process of tuition waivers for Graduate Teaching Assistants (GTA) at the university and college levels. Tied to this process was the advent of the unionization of Graduate Assistants as an employee unit. As a result, all GTAs must receive a minimum stipend amount of $348.95 per month as well as an additional payment of $130 per month. The additional payment has been centralized and is allocated to the individual department/school based on GTA appointments allocated to each semester. The School of Architecture adjusted the existing budget for GTAs during the fiscal year 2016 and received an OTO additional budget of $25,000 from the College, but struggled to receive the additional budget in time for the first month of classes. For fiscal year 2017 the school reallocated an existing budget from another area for its GTAs. Future allocation of GTAs is not certain and remains a concern.

• The College Development Officer, who used to work for the School of Architecture, was removed from the College and given to the Foundation. The result was a significant decrease in the ability to raise money for the School and resulted in a significant drop in money's raised for scholarships and program development.

- The School of Architecture has initiated efforts to work with five other institutions of higher education to build pathways to an architecture education from a more diverse population.

d. Summary of Activities in Response to Changes in the NAAB Conditions: The School made two important changes as a result of the VTR and the changes in the Conditions. First, we decided to increase the number of courses that address A.1 Professional Communication Skills in order to make sure that a wide range of communication skills were addressed. This occurs in the Introductory course, three Architectural Graphics courses in first and second year, the Options Studio and the Thesis, allowing for written, verbal and graphic communication to be addressed across the design spectrum. Second, we decided to focus ARCH 558 and 535 on Realm C, Integrated Architectural Solutions. See the description of these two courses, below. Their integration is discussed in the section above on SPC not met B.6.
2014 NAAB Conditions

Montana State University, 2016 update: Click here to enter text.

e. Appendix (include revised curricula, syllabi, and one-page CVs or bios of new administrators and faculty members; syllabi should reference which NAAB SPC a course addresses)

Montana State University, 2016 update: The following documents are submitted with this Template:

- Syllabus for ARCH 431 addressing the Concern for Sustainability (not SPC related-available upon request)
- Syllabus for ARCH 535 addressing SPC B.6 Comprehensive Design p. 11-16
- Syllabus for ARCH 558 addressing SPC B.6 Comprehensive Design p. 17-21
- Position Description for Sean Clearwater Concern for Shop Safety p. 22
- Susan Cowan CV p. 23
- Jaya Mukhopadhyay CV p. 24
- Andrew Vernooy CV p. 25
- Robert Mokwa CV p. 26
- Royce Smith CV p. 27

Arch 535 – Advanced Systems Integration:

getting from design to construction

Instructors: Thomas McNab
tmcnab@montana.edu
406-994-3793
114 Cheever Hall
Office Hours: Monday 9:00 – 11:00 AM, Tuesday 10:00 AM to 12:00 PM or by appointment

Jaya Mukhopadhyay,
jaya.mukhopadhyay@montana.edu
406-994-4717
116 Cheever Hall,
Office Hours: 8:00-9:30 AM Monday & Wednesday or by appointment

Class Times: Monday, Wednesday, and Friday 12:00 – 12:50 PM, 113 Linfield Hall

abstract

The practice of architecture is unique in the culture of business and society. An Architect's training is broadly based in the design of space and focused on knowledge and skill in a variety of cultural, social, aesthetic, and technical areas. The realization of an Architectural project's success ultimately is dependent on the balance of physical, visual, and performance the integration and communication that takes place between the architect's consultants and the construction team. By virtue of this an Architect must be part artist, scientist, engineer, and craftsman to be able to recognize and assess every part of a project and assemble or guide the assemblage of parts, materials, processes, and systems required to realize the constructed manifestation of the design.

This course is a companion course to Arch 558 Comprehensive Design Studio. As such, the course is designed to support the technical considerations necessary to achieve the goals of Arch 558. The intent of this course is to introduce the thinking and processes that will allow you to apply the skills and knowledge you have accumulated in undergraduate studies of construction material and process; structural design; environmental design; and environmental control systems to a building design.

learning outcomes and student performance criteria

The Master of Architecture degree at Montana State University is a professionally accredited degree and as such, this course fulfils the National Architectural Accreditation Board (NAAB) criteria (2014):

"The accredited degree program must demonstrate that each graduate possesses the knowledge and skills defined by the criteria below. The knowledge and skills defined here represent those required to prepare graduates for the path to internship, examination, and licensure and to engage in related fields." The program must provide student work as evidence that its graduates have satisfied each criterion.

The criteria encompass two levels of accomplishment:

- ***Understanding***—The capacity to classify, compare, summarize, explain, and/or interpret information.
- ***Ability—***Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.

II.1.1 Student Performance Criteria (SPC): The NAAB establishes SPC to help accredited degree programs prepare students for the profession while encouraging education practices suited to the individual degree program. The SPC are organized into realms to more easily understand the relationships between each criterion."

- National Architectural Accreditation Board, "Conditions of Accreditation", 2014 edition, page 15.

Realm C: Integrated Architectural Solutions.

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

C.2 Integrated Evaluations and Decision-Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the

effectiveness of implementation.

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

the arch 535 component

The intention of ARCH 535 is to investigate various building systems such as structure, mechanical/electrical/ plumbing, lighting, acoustics, building construction and delivery systems, specifications, and sustainability. This effort will be strongly coordinated with your studio so that the final design presentation in ARCH 558 will represent a comprehensive set of ideas. This will not be an easy or smooth journey so be prepared for rapid accommodation and adaptation as your project and the class evolves through the semester. As this course will build upon your previous course work in Building Construction, Professional Practice, and Environmental Systems it would be wise to review your notes and textbooks from those earlier courses as we will not reiterate previous coursework. The object of this class is to look at how the previous coursework relates to your design project.

course structure

Instructors will give a presentation and assign exercises during class meeting. In general, Professor McNab will cover construction and delivery systems while Professor Mukhopadhyay will cover Environmental Systems. Professionals from the region may also be brought in to augment the course content.

expectations

As a graduate-level course in a professionally-accredited program we will expect you to behave and perform accordingly. This implies that you will be on time for every class session, you will be prepared with your assignments, you will participate in discussions and reviews, and you will conduct yourself in a courteous and professional manner at all times. It is that simple.

procedure

The class will follow the three part outline described in the Arch-558 Comprehensive Design Studio Syllabus. Course lectures, discussions, presentation, and assignments will be designed to follow the general schedule established by the Arch-558 Syllabus. Your work in Arch-535 will be presented in the reviews outlined in the Arch-558 syllabus for each of the phases, Gathering/Processing, Producing, and Presenting. Students are expected to work and present their findings in class. Hence, please bring your computer at all times.

To aide you in compiling information to support your Arch-558 studio you will be required to assemble and populate a notebook documenting your work in Arch-535. The notebook will be collected throughout the semester and graded and will be required for all reviews scheduled for Arch-558. Please keep it up to date. All assignments in the notebook are expected to be formatted as technical documents.

Minimum Requirements for the notebook:

1. General
    a. Date and Title all documents included in the notebook
2. Reading notes
    a. Include a list of important concepts from the readings
    b. Identify concepts, processes, or decisions that were influenced by the reading.
    c. List 2-3 questions to be presented in class discussions that were provoked by the reading
3. Lecture Notes
    a. Material written on white board
    b. Points emphasized in lectures
    c. General lecture and presentation notes in your own words
4. Assignments
    a. Include the assignment text
    b. Your completed assignment and iterations thereof
    c. Research required for the assignment
    d. Graphing, diagramming, drawings, writing calculations related to the assignment

		DATE	TOPIC	ASSIGNMENT	NOTES
Setting Goals	WEEK 1 INTRODUCTION	MONDAY August 29	Syllabus Technical Writing Introduction Project Goals: Programming	Technical Writing Assignment: Instruction Assignment 1: Programming - Introduction	Systems Integration Quiz distributed
		WEDNESDAY August 31	Setting Program Goals Program Elements		Systems Integration Quiz Due
		FRIDAY September 2	Arch 558 Fieldtrips		
Programming and Planning	WEEK 2 PROGRAM	MONDAY September 5	LABOR DAY HOLIDAY		
		WEDNESDAY September 7	Tools to set goals Introduction to rating systems, & assessment tools		
		FRIDAY September 9	Tools for programming Programming Issues Preliminary code analysis Zoning Pre-design + concept design		
	WEEK 3 SITE ANALYSIS	MONDAY September 12	Climate context: Macro & micro Water conservation	Assignment 2: Site Analysis - Introduction	
		WEDNESDAY September 14	Soils and Design Site Grading	Assignment 2: Site Analysis - In-class work	
		FRIDAY September 16	Comprehensive issues Applying zoning criteria Regional and community issues	Assignment 2: Site Analysis - In-class work	

		DATE	TOPIC	ASSIGNMENT	NOTES
Concept Design	WEEK 4 CONSTRUCTION / INTEGRATION	MONDAY September 19	Assignment 2: Site analysis – Class presentation	Assignment 2: Site analysis - Due	Presenters will be selected randomly
		WEDNESDAY September 21	Foundation systems Materials: energy, moisture, migration, infiltration	Assignment 1: Programming - Due	Work of this week is preparing for Assignment 7 Walls Sections, Detailing, and Specifications
		FRIDAY September 23	Case-Study: Norm Asbjornson Innovation Center Agnes Pohl		
	WEEK 5 ENVELOPE / INTEGRATION	MONDAY September 26	Envelope considerations Envelope detailing and construction		Work of this week is preparing for Assignment 7 Walls Sections, Detailing, and Specifications
		WEDNESDAY September 28	Campus LEED building tour		
		FRIDAY September 30	Integrating Systems Selecting appropriate systems Diagraming systems	Technical Writing Assignment: Part 1 - Due	Work of this week is preparing for Assignment 7 Walls Sections, Detailing, and Specifications
Schematics and Iteration	WEEK 6 DAYLIGHTING + ENERGY	MONDAY October 3	Basic concepts in daylighting Daylighting calculations Introduction to DIVA	Assignment 3a: Daylighting - Introduction	
		WEDNESDAY October 5	ARCHITECTURE SCHOOL SERVICE DAY		Required attendance at service day activities
		FRIDAY October 7	Basic concepts in energy consumption of buildings Energy calculations Energy efficiency strategies Introduction to Sefaira	Assignment 3b: Energy Analysis - Introduction	
	WEEK 7 DAYLIGHTING + ENERGY	MONDAY October 10	Daylighting – DIVA workshop	Assignment 3a: Daylighting analysis - In-class work	
		WEDNESDAY October 12	Energy analysis – Sefaira workshop	Assignment 3b: Energy analysis - In-class work	
		FRIDAY October 14	CLASS PRESENTATION Assignment 3a + 3b	Assignment 3a + 3b: Energy & daylighting analysis - Due	Presenters will be selected randomly from those that have not presented in prior classes

		DATE	TOPIC	ASSIGNMENT	NOTES
	WEEK 8 PASSIVE SYSTEMS	MONDAY October 17	Bioclimatic chart Passive design strategies	Assignment 4: Passive design strategies - Introduction	
		WEDNESDAY October 19	Iterating to incorporate passive design strategies	Assignment 4: Passive design strategies - In-class work	
		FRIDAY October 21	Assignment 4: Passive systems – Class presentation	Assignment 4: Passive design strategies - Due	Presenters will be selected randomly from those that have not presented in prior classes
	WEEK 9 ACTIVE SYSTEMS	MONDAY October 24	Review of HVAC systems	Assignment 5: HVAC systems - Introduction	
		WEDNESDAY October 26	Integrating HVAC systems in buildings – Case studies	Assignment 5: HVAC systems - In-class work	
		FRIDAY October 28	Assignment 5: Active systems – Class presentation	Assignment 5: HVAC systems - Due	Presenters will be selected randomly from those that have not presented in prior classes
	WEEK 10 LIGHTING / ACOUSTICS	MONDAY October 31	Fundamentals of acoustics Fundamentals of lighting		
		WEDNESDAY November 2	Acoustical Q&A with Sean Connolly		
		FRIDAY November 4	Lighting Q&A with Andrew Moore	Technical Writing Assignment: Part 2 - Due	
	WEEK 11 RATING SYSTEMS	MONDAY November 7	The LEED process	Assignment 6: Rating Systems - Introduction	
		WEDNESDAY November 9	Meeting compliance goals - A discussion with Kath Williams	Assignment 6: Rating systems - In-class work	
		FRIDAY November 11	VETERAN'S DAY HOLIDAY		

		DATE	TOPIC	ASSIGNMENT	NOTES
Design Documentation	WEEK 12 SPECIFICATIONS / WALL SECTIONS	MONDAY November 14	Assignment 6: Rating systems – Class presentation	Assignment 6: Rating systems - Due Assignment 7: Envelope design - Introduction	Presenters will be selected randomly from those that have not presented in prior Classes
		WEDNESDAY November 16	Introduction to WUFI & THERM	Assignment 7: Envelope design - In-class work	
		FRIDAY November 18	Wall sections Details	Assignment 7: Envelope design - In-class work	
	WEEK 13 WALL SECTION DETAILING	MONDAY November 21	Campus LEED building tour		
		WEDNESDAY November 23	THANKSGIVING DAY HOLIDAY		
		FRIDAY November 25	THANKSGIVING DAY HOLIDAY		
	WEEK 14 WALL SECTION DETAILING	MONDAY November 28	Wall Sections Details	Assignment 7: Envelope design - In-class work	
		WEDNESDAY November 30	Specifications	Assignment 7: Envelope design - In-class work	
		FRIDAY December 2	Assignment 7: Envelope design – Coordination detailing questions & desk critique		Presenters will be selected randomly from those that have not presented in prior Classes
	WEEK 15 WALL SECTION DETAILING	MONDAY December 5	Assignment 7: Envelope design – Coordination detailing questions & desk critique		
		WEDNESDAY December 7	Assignment 7: Envelope design – Coordination detailing questions & desk critique		
		FRIDAY December 9	Assignment 7: Envelope design – Coordination detailing questions & desk critique	Assignment 7: Envelope design - Due Technical Writing Assignment: Part 3 - Due	
	WEEK 16 REVIEW	REVIEW WEEK			Appropriate elements of your work in Arch 535 are expected to be included in your final Arch 558 presentation

MONTANA STATE UNIVERSITY **SCHOOL OF ARCHITECTURE**

Arch 558 – Comprehensive Design Studio – Fall 2016
Sections 003 & 005: Monday, Friday 8:00-11:50, Wednesday 8:00-9:50
Section 001: Monday, Friday 1:10-5:00, Wednesday 1:10-3:00
6 cr.

Johnson, Juroszek, Livingston

Arch 558 – Comprehensive Design Studio

Course Syllabus for all sections

Comprehensive 1 : covering completely or broadly : INCLUSIVE **2 :** having or exhibiting wide mental grasp < ~ knowledge > : COMPREHENSIVENESS **2 a :** the act or action of grasping with the intellect : UNDERSTANDING

Introduction

The Arch 558 Comprehensive Design Studio, in conjunction with Arch 535 Advanced Building Systems, is intended to provide students with a rich, project-based opportunity to investigate a particular building design in a comprehensive manner. Comprehensive in this studio is thus defined as integrating to a high level of completeness the knowledge and skills you have gathered over your undergraduate education with new analysis tools and information gathering skills. As such, the two courses, Arch 558 and Arch 535, are structured to provide students the opportunity to develop an initial schematic design proposal early in the semester through well-reasoned conceptual study, program development and site investigation and then examine and test this design proposal through iteration, integrating and incorporating all of the various components of the project into a cohesive, highly developed and articulated project solution.

This studio is intended to be rigorous in nature, challenging the student's abilities in all areas of design including theory, critical thinking skills, research skills, overall design capabilities, knowledge and application of building systems and technologies, as well as verbal and graphic presentation skills. The complete, or comprehensive, abilities of each student will be challenged throughout the semester with the goal of highly reasoned, thoroughly conceived, creative projects. Think AWESOME!

Project scope and size

The project(s) to be completed over the courses of the semester have been prepared by your studio instructor. In general terms, the primary project that you will be completing will be commercial/educational/institutional in nature and of modest scale to allow each student the opportunity to explore a variety of issues related to theoretical issues, program, site, accessibility and life safety, environmental stewardship, structural and mechanical systems as well as building enclosure technology.

Site

The particular site(s) or locations of the studio project have been selected by your studio instructor (see project scope and size above).

Studio Structure

The semester will be divided into three sections; Gathering/Processing, Producing, and finally Presenting. Each of the three sections will be graded to keep you on track and to allow your work throughout the semester to be evaluated. Process and documentation are very important aspects of the studio and you will be required to

document your work and keep it in a safe location. This information will form the basis of a research document that will be required with your final presentation materials.

Part 1

Gathering/Processing

[see calendar for review dates]

This initial phase is about gathering the necessary information together in one location. This information will not only be found, it will also be developed, as in the case of the program and schematic design. Much of this is just selection, making choices and living with those choices. Select a site, determine a program. Don't second guess these things; use them as constraints to foster creativity. Consider this an 'educated guess' of what the final project will be. The level of completeness achieved in *Part 1* will largely determine the trajectory of *Part 2*.

Consider this to be a required list of information you will need for the Gathering/Processing phase:

- Theoretical position\Concept based on readings and assignments
- Program development -quantitative program – this includes all spaces, square footages (indoor + outdoor), etc.
  -qualitative including the qualities of light, color, shape, volume, etc. of the primary spaces and to a lesser extent the secondary and tertiary spaces.
- Research into precedents (3) related to the project
- Site selection and research
- Preliminary material research
- Preliminary analysis and response to the AIA COTE Competition Ten Sustainability Measures
- Preliminary sustainable system research
- Preliminary mechanical/lighting/daylighting research
- Preliminary structural research
- Schematic design (*to include all of the above along with the items below as a minimum*)
  -Massing (including multiple studies)
  -Overall Site plan/Floor plans
  -Diagrams (circulation, structure, etc.)
  -Site sections/building sections
- Presentation consistent with the AIA COTE Competition guidelines

Part 2

Producing

[see calendar for review dates]

This next phase is about taking what you have gathered and doing something remarkable or 'amazing'. All of your research has to be accounted for and integrated at some level into this stage. Iteration is critical to *Part 2*. The goal is to investigate and essentially 'test fit' all of the aspects related to the project. Concept, program, site, codes, myriad technologies and all the aspirations you have for the project must all work to form a cohesive whole. The longer you wait the more difficult the integration will be. How good was the 'educated guess' and how much did you have to change?

Consider this to be a required list of information you will need for the Producing phase:

- More established (think 'solid') Theoretical position\Concept based on readings and assignments
- Integrate Program into schematic design
- Integrate Site selection and uniqueness of site conditions into schematic design

- Integrate Material research into schematic design
- Integrate the AIA COTE Competition Ten Sustainability Measures into the schematic design
- Refine sustainable system research and incorporate into schematic design
- Integrate preliminary mechanical/lighting/daylighting research
- Integrate preliminary structural research
- Design development solution (*to include all of the above along with the items below as a minimum*)
  - -Massing (refined)
  - -Overall Site plan/Floor plans
  - -Diagrams (circulation, structure, etc.)
  - -Site sections/building sections/wall sections
  - -Building elevations
  - -Perspectives (interior/exterior)
- Presentation consistent with the AIA COTE Competition guidelines

Part 3

Presenting

[see calendar for review dates]

In the final phase you will be required to satisfy all of the NAAB criteria identified below. There is a long list of requirements which, in the end, will establish your understanding of what constitutes comprehensive design. Some of your process may be in booklet form (aspects of your process including diagrams, drawings, photographs of massing and study models and other 2-D information to demonstrate iterative work within the categories of ordering systems, design thinking skills as well as investigative skills) while other information will be 2-D on printed boards and 3-D in constructed models.

Consider this to be a required list of information you will need for the Presenting phase:

- Fully integrated theoretical position\concept based on readings and assignments
- Fully developed program with all necessary spaces which satisfies building code and accessibility requirements
- Site plan that fully incorporates the project
- Materials fully described and rendered in drawings
- Constructed models (digital or physical) illustrating and identifying the appropriate assembly of materials, systems, and components
- Fully incorporated AIA COTE Competition Ten Sustainability Measures evidenced the final design
- Fully incorporated sustainable systems evidenced in final design
- Fully incorporated mechanical/lighting/daylighting systems evidenced in final design
- Fully incorporated structural system evidenced in final design
- Final design solution (*to include all of the above along with as a minimum*)
  - -3-D Model of final design (1/16" or 1/8")
  - -Overall Site plan (1/16" or 1/8")
  - -Floor plans (1/16" or 1/8")
  - -Diagrams (circulation, structure, etc, backup mat'l as req'd.)
  - -Site sections/building sections (1/16" or 1/8")
  - -Wall sections (1/4" or 1/2")
  - -Building elevations (1/16" or 1/8")
  - -Perspectives (interior/exterior)
- Presentation consistent with the AIA COTE Competition guidelines for submission, along with supplementary information developed throughout the semester

Reading list/References

Your individual studio instructor will assign required and supplementary readings as well as reference materials at their discretion.

Student Performance Criteria and Evaluation

II.1.1 Student Performance Criteria (SPC): *The NAAB establishes SPC to help accredited degree programs prepare students for the profession while encouraging educational practices suited to the individual degree program. The SPC are organized into realms to more easily understand the relationships between each criterion"*

-National Architectural Accreditation Board, "Conditions of Accreditation", 2014 edition, p. 15.

All students, to pass the course, will have to accomplish an *understanding* or *ability* for the following 2014 NAAB criteria:

Realm C: Integrated Architectural Solutions:

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

C.2 Integrated Evaluations and Decision-Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Learning Objectives & Goals

The School of Architecture has identified ARCH 558 as the studio intended to satisfy the National Architectural Accrediting Board (NAAB) requirement for an "Integrated Architectural Solution" or what was formerly the *Comprehensive Design* experience. This is defined by the 2014 NAAB Conditions as the "*ability to synthesize a wide range of variables into an integrated design solution:"*

Student learning aspirations for Realm C include:

- *Comprehending the importance of research pursuits to inform the design process.*
- *Evaluating options and reconciling the implications of design decisions across systems and scales.*
- *Synthesizing variables from diverse and complex systems into an integrated architectural solution.*
- *Responding to environmental stewardship goals across multiple systems for an integrated solution.*

More specifically, to successfully complete this class, each student must be able to demonstrate the following:

1. Professional Communication Skills
   Demonstration: Create clear written and representational documents and models illustrating the design and development of the project including the entire decision-making process. Effectively convey this information during verbal presentations.
2. Research
   Demonstration: Research and establish a theoretical position for your project as well as associated decision making processes to be included in final documentation materials.
3. Integrated Evaluations and Decision-Making Design Process
   Demonstration: Present your design process which will include problem identification, establishment of criteria for evaluating alternatives and analyzing solutions, as well as predicting the effectiveness of decisions in the design process. Create diagrams, sketches, conceptual models, structural, spatial and material studies including those of site analysis, formal, spatial and theory driven programming, building systems and material precedent analysis and illustrate alternative considerations and criteria used for decision making.

4. Environmental Stewardship
   Demonstration: Identify the conservation and reuse of natural and built resources utilized in your project as well as the strategies you have utilized to seek carbon-neutral design, bioclimatic design and energy efficiency.
5. Technical Documentation
   Demonstration: Create large scale wall sections, plans and elevation drawings that articulate the building systems (enclosure, structure, HVAC, and finishes) found in your design proposal. Create models (digital or physical) illustrating and identifying the assembly of materials and develop outline specifications.
6. Accessibility
   Demonstration: Site and building plans as well as vertical circulation systems addressing physical, sensory and cognitive disabilities.

7. Site Conditions
   Demonstration: Site plan with contours indicating new and preserved landscapes, vegetation, on-site water management and knowledge of soil types.
8. Life Safety
   Demonstration: Develop egress diagrams.
9. Environmental Systems
   Demonstration: Identify active and passive environmental systems that respond to needs of the site, building program and specific geographic region. Identify strategies in response to active and passive heating and cooling solar orientation/geometry, daylighting, natural ventilation, indoor air quality, lighting systems and acoustics. Demonstrate evaluations through appropriate assessment tools.
10. Structural Systems
    Demonstration: Evaluating and selecting appropriate structural systems, including foundations, to be documented through drawings or models illustrating primary, secondary and tertiary systems.
11. Building Envelope Systems and Assemblies
    Demonstration: Evaluating and selecting building envelope systems appropriate to specific programmatic requirements, climatic conditions, energy use, fundamental performance, and aesthetic/socio/cultural conditions. Create large scale wall sections and other drawings/diagrams or models illustrating building systems, assemblies, materials, as well as performance characteristics.

Equipment & Facility Manager—Sean Clearwater

10-month appointment three/quarter-time .75 FTE 2-month appointment half-time .50 FTE Overtime eligible Under supervision of the Furniture Construction Specialist and Facilities Resource Manager, the incumbent provides training and supervision of craft shop users. Major responsibilities include: assist craft shop users enforcing all policies as stated in the Architecture Safety Manual also enforcing written and verbal policies as communicated by the supervisor; perform routine maintenance, housekeeping and equipment troubleshooting; purchase equipment, supplies and materials; assist with gallery and archive duties. The incumbent communicates student, staff and faculty needs in relationship to the craft shop and confers with his supervisor to meet their needs. Assigned duties include:

Cheever Craft Shop Duties (80% of position)

1. Confirm eligibility for shop access. Train, supervise and assist craft shop users. Communicate safety practices and procedures to shop users.

2. Operation of all equipment and tools in the craft shop and service centers including operation of CNC, 3D modeler and laser cutting equipment.

3. Routine maintenance, housekeeping and equipment troubleshooting. Revise and develop policy and procedures manuals for craft shop and service centers equipment.

4. Provide training for craft shop student employees.

Facility Duties (5% of position)

- Installation and removal of exhibits. Proper labeling and archiving of student projects and materials.

- Assist with student, faculty and staff construction projects.

Administrative/Managerial Duties (15%)

- Confer with supervisor and other affected parties when user needs cannot be met.

- Research potential cost cutting techniques/ options while maintaining high quality materials and equipment.

- Purchase equipment, supplies and materials.

- Identify and assign tasks and projects for student shop attendants.

Susanne Cowan, Ph.D.
Assistant Professor
Full Time

Courses Taught 2014-2016

Fall Semester	*Spring Semester*
Arch 322 World Architecture I	*Arch 323 World Architecture II*
Arch 525 Special Design Topic	Arch 121 *Introduction to Design*

Educational Credentials

Ph.D. in Architecture, University of California, Berkeley, 2010
Masters of Science in Architecture, University of California, Berkeley, 2007
Bachelors of Arts in Landscape Architecture, University of California, Berkeley, 2001

Teaching Experience

Montana State University, School of Architecture, Assistant Professor, 2014-Present
Washington University, School of Architecture, Post-Doctorate Fellow, 2012-1014
Syracuse University, School of Architecture, Visiting Assistant Professor, 2011-2012

Professional Experience

Reform by Activism and Design, LLP (RAD), *Co-Founder, 2014-Present*
Community Forestry Research Fellowship Program, *Program Assistant, 2003*
Alameda County, CA, Office of Education, *Environmental Educator*, *2003*
Environmental Policy Center, *Research Assistant, 2001-2002*
ACCORD for Youth Americorps, Project Create, *Environmental Educator*, *2001-2002*

Selected Publications

Cowan, Susanne. "Whose Neighborhood?: Identity Politics, Community Organizing, and Historic Preservation in St. Louis." *Whose Tradition*. Eds. Nezar AlSayyad, et al. London: Routledge, 2016.

Cowan, Susanne and Ayda Melika. "Design as a Social Act: The Rise of Social Factors Research and the Challenges of Participatory Design." *Revisiting "Social Factors:" Advancing Research into People and Place.* Eds. Lusi Morhayim and Georgia Lindsay. Newcastle upon Tyne, U.K.: Cambridge Scholars, 2015. P. 28-54.

Melika, Ayda and Cowan, Susanne and *Design as a Social Act: Tales of Architectural Activism* (Documentary Film Trilogy, DVD). Bozeman, MT: Reform by Activism and Design, 2014.

Cowan, Susanne. "A Model for the Nation: Exhibiting Post-War Reconstruction at the Festival of Britain." *Exhibitions and the Development of Modern Planning Culture*, Eds. Robert Freestone and Marco Amati, Ashgate Press, Farnham, Surrey, England, 2014. P. 177-192.

Selected Awards

Montana State University, Research and Creativity Grant, 2016
Paul Mellon Center, Research Support Grant for Studies in British Art, 2011
National Gallery of Art, CASVA Pre-Doctoral Fellowship, 2006

Professional Membership

Society for American City and Regional Planning History (SACRPH)
International Planning History Society (IPHS)
Urban History Association (UHA)
Society of Architectural Historians (SAH)
International Association for the Study of Traditional Environments (IASTE)
Environmental Design Research Association (EDRA)

JAYA MUKHOPADHYAY Ph.D., LEED AP Net-zero energy buildings, building energy simulation, daylighting, energy efficiency in residential & commercial buildings, passive solar building systems, operation & maintenance of high performance buildings.

Texas A&M University, College Station, Texas, USA Ph.D. in Architecture, 2013 Master of Science in Architecture, 2005

Tulsi Vidya Bharati School of Architecture, New Delhi, India Diploma in Architecture (Equivalent to B Arch), 1999

LEED Accredited Professional (LEED 2.1), 2006

PROFESSIONAL & ACADEMIC EXPERIENCE Montana State University

Department of Art & Architecture Bozeman, MT *Assistant Professor (Aug 15 – Present)*

Energy Systems Laboratory Texas A&M University, College Station, TX *Research Engineering Associate III (Sep 13 – Aug 15) Research Engineering Associate II (Mar 07 – Aug 13) Graduate Research Assistant (Sep 03 – Aug 05)*

Kirksey Houston, TX *Junior Associate (Sep 05 – Feb 07)*

Integrated Design Lab Services, Northwest Energy Efficiency Alliance, 2015- 2017 (Co-PI) **ASHRAE RP-1650: Training Requirements for Sustainable High Performance Building Operations. American Society of Heating Refrigerating & Air- conditioning Engineers 2017 – 2018** (PI)

Presentations 1. Mukhopadhyay, J., J. Baltazar and J. Haberl. 2016. "*Comparing the*

Performance of a 2009 IECC Code-Compliant House Using Four Code- Compliance Residential Simulation Programs". Presentation at the International Building Simulation Association Conference, Salt Lake City, UT.

Peer Reviewed Publications

5. **Mukhopadhyay, J., J. Haberl. 2014. *"Reducing Energy Consumption in Grocery Stores: Assessing CHP Systems".* Technical Paper. Accepted by the ASHRAE Transactions, American Society of Heating, Refrigerating and Air-conditioning Engineers.**

6. **Mukhopadhyay, J., J. Haberl. 2014. *"Reducing Energy Consumption in Grocery Stores: Evaluation of Energy Efficiency Measures".* Technical Paper, ASHRAE Transactions, Volume 120. American Society of Heating, Refrigerating and Air-cond.**

BIOGRAPHIC INFORMATION—A. VERNOOY

My undergraduate degree is from Princeton and is in Engineering. My first professional degree in Architecture is from the University of Texas. I also have master's degrees from the University of Texas and the Graduate School of Design, at Harvard in Construction Management and the History and Theory of Urban Form respectively.

Teaching

- Professing Excellence Award, Texas Tech University, 2003
- Texas Society of Architects Edward J. Romieniec, Award for lifetime contributions to architectural education in Texas
- Recipient of four teaching fellowships 1991-2000 from Nationally significant foundations—including the Sid Richardson and Meadows Foundations
- Teaching Excellence Award, University of Texas, 1983

Practice— From 1981 until 2004 I was in private practice with Sinclair Black in Austin. During this time we worked on the design of over 200 buildings and won over 30 awards and competitions. While nationally known for urban design, Black & Vernooy were regarded as significant proponents of "Regionalism" in architecture design, influencing the architecture of the Southwest for two decades.

- Saunders Residence, 1980, Unusual structural design which included wood trusses, steel trusses, plywood diaphragm shear walls and an 80' long, 20' high cantilevered concrete wall. **This project won an AIA Austin Honor Award.**
- Moore-Flack House, 1981, preservation technologies. **This project won an AIA Austin Honor Award.**
- Texas Commission for the Blind Administration Headquarters, 1984, poured in place concrete frame with unusual precast concrete envelope and a carefully integrated mechanical system. **This project won an AIA Austin Merit Award and an American Concrete Institute Design Award, Central Texas.**
- Austin Nature Center Visitor's Pavilion, 1984, unusual poured in place concrete integrated envelope and structural system with laminated wood roof. **This project won an AIA Austin Honor Award, an Excellence in Design Award from the City of Austin, and an American Concrete Institute Design Award, Central Texas.**
- Buckner Boys Camp, 1985, heavy timber construction. This project won an **Excellence in Wood Design Award from the Texas Forestry Association.**
- Lanier High School Theater, Gymnastics Building, Band Hall and Voc/Ag Building, 1989, masonry bearing and braced steel frame and rigid steel frame buildings with formally celebrated structural and mechanical systems. **This project received an AGC Construction Award for Craft.**
- St. Stephen's Fine Arts Building, 1993, rigid frame with masonry bearing wall and timber truss roof structure. **This project received an award from AIA Austin.**

Administration—

- Associate Dean, College of Architecture, University of Texas, Austin
- Dean, College of Architecture, Texas Tech University

Director, School of Architecture, Montana State University

Robert L. Mokwa

Interim Provost and Executive Vice President for Academic Affairs

EDUCATION

Ph.D. Civil Engineering (Geotechnical focus) M.S. Civil Engineering (Geotechnical focus) B.S. Civil Engineering (Structural focus)

MSU APPOINTMENTS

Virginia Tech Purdue University Virginia Tech 2016 – present 2015 – 2016 2014 – 2015 2013 – present 2006 – 2013 2001 – 2006

Interim Provost and Executive Vice President of Academic Affairs Department Head, Mathematical Sciences Presidential Leadership Fellow Professor of Engineering

HONORS, AWARDS AND RECOGNITIONS

MSU President's 2014 Excellence in Teaching Award, January 2014 Nominated for the *MSU Center for Faculty Excellence 2014 Teaching Innovation Award, October*

2013. MSU President's Excellence in Teaching Award – Finalist and Honorable Mention. Montana State University, January 2013.

Nominated for the National *Teaching Award from the American Society of Engineering Education*, nominated by the MSU College of Engineering.

Faculty Award for Excellence. Montana State University and the Bozeman Area Chamber of Commerce, February 2009.

Outstanding Teacher Award. Montana State University, College of Engineering, May 8, 2002. *Presidents Research Excellence Award.* Paul E. Torgerson's Presidential Research Award, Virginia Tech, 1999.

Top Ten Paper Award. ASCE Journal of Geotechnical and Geoenvironmental Engineering, October 2002.

Charles E. Via Doctoral Fellowship. Virginia Tech. *Department of Energy Graduate Fellowship.* Purdue University.

Dr. Royce W. Smith Dean

Montana State University, College of Arts and Architecture,

Education

2000 – 2005, University of Queensland; Brisbane, QLD, Australia, Ph.D. by Dissertation and Exhibition, Contemporary Art History and Theory

1999, University of Queensland; Brisbane, QLD, Australia, M.A., Contemporary Art History and Theory

1997 – 1998; 2000, Purdue University; West Lafayette, IN, USA, M.A., English

1992 – 1994; 1995-1996 Wabash College; Crawfordsville, IN, USA, A.B. (Summa Cum Laude) with majors in English, Spanish, and Humanities/Fine Arts and a minor in Secondary Education

Professional Experience

2016- Dean, College of Arts & Architecture, Montana State University

2005 – 2016 Director (2013-2016) and Associate Professor, Modern & Contemporary Art History School of Art, Design & Creative Industries Wichita State University Wichita, KS, USA (tenured 2011)

Fulbright Scholar Creative Director, 2015 Bienal Internacional de Artes Visuales de Paraguay– Asunción, Paraguay

2013 Visiting Professor, Contemporary Art History and Criticism, Instituto Superior de Artes (ISA) Havana, Cuba (invitation extended from the Cuban

2008 Visiting Professor, Contemporary Art History and Theory, University of Auckland Auckland, New Zealand

2003 – 2005 Associate Lecturer, Art History and Theory, College of Fine Arts, University of New South Wales Sydney, NSW, Australia