LONG SIGNATURE SHEET



SoA Graduate 3-16-2011 Proposal Number:

Proposal Title: _Graduate Curriculum New Coursework and Revision of Curriculum Sequence

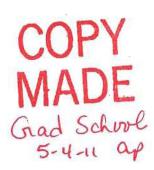
Originating Department School of Architecture, College of Arts + Architecture

TYPE OF PROPOSAL: UNDERGRADUATE_____ GRADUATE____

UNDERGRADUATE & GRADUATE

(Separate proposals sent to UCCC and Grad. Council)

DATE RECEIVED	DATE CONSIDERED	DATE FORWARDED	ACTION	SIGNATURES
			Approved	DEPARTMENT CHAIR A 1,1,1 Chris Jarrett, SoA Director
			Approved	COLLEGE CURRICULUM COMMITTEE CHAIR Moran Brenney 4-7-11 Susan Brenner, CoA+A Curric.Com Chair
			Approved	COLLEGE FACULTY CHAIR NA- Print name:
			Approved	COLLEGE DEAN Ken hambla (LG) Ken Lambla, CoA+A Dean
			Approved	UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR (for undergraduate courses)
4-21-11	5-3-11	54-11	Approved	GRADUATE COUNCIL CHAIR (for graduate courses) Rob Roy M. Liegos
			Approved	FACULTY GOVERNANCE SECRETARY (noting Faculty Council approval on Consent Calendar)
				FACULTY EXECUTIVE COMMITTEE (if decision is appealed)



Revised 10/20/10 OAA/cag University of North Carolina at Charlotte Revised MARCH Graduate Curriculum and New Coursework Course and Curriculum Proposal from: School of Architecture

Graduate Curriculum New Coursework and Revision of Curriculum Sequence

A. PROPOSAL

- 1. Summary: The School of Architecture proposes to:
 - a.) add six new courses to its MArch Program (ARCH, 5203, 5604, 5605, 6306/6307, 6602, and 6603),
 - b.) eliminate one course (ARCH 7110), and
 - c.) make minor revisions to the sequence of coursework.

The proposal changes the total credit hours required for the MArch degree, raising the number to 96 credit hours for the 3+ year curriculum (currently 89 credits hours) and 60 credit hours for the 2-year curriculum (currently 56 credit hours). Approval for these changes are part of this proposal.

Along with these changes comes a renumbering and retitling of courses to provide clarity and to better comply with sequence nomenclature and classification. For reference, see separate *Short Form Memo ARCH Graduate 3-16-2011* that address these minor changes.

Changes sought in this proposal, and the parallel *Short Form Memo ARCH Graduate 3-16-2011* proposal, once approved, will be partially implemented beginning Fall 2011 with all changes in effect by Fall 2012.

2. Catalog Copy:

Catalog copy for new coursework proposed includes:

ARCH 5203: Architectural History III: Survey of Contemporary Theory (1950 - **Present).** (3) Prerequisite: ARCH 5202 or permission of instructor. This course is a survey of architecture theory from 1950 to the present. It focuses on the key ideas, texts, debates, and discourse that have informed architectural practice in the late twentieth and early twenty-first century. (*Fall*)

ARCH 5604 Computational Methods. (3) Pre-requisite: ARCH 6603, Corequisite: ARCH 7101 or permission of instructor. This course introduces students to the fundamental concepts of computation through explorations with basic scripting and parametric tools. The goal is to understand the potential of computation and the role it can play as part of one's design process, not as a collection of specific tools, but as a way of thinking about design. (*Fall*)

ARCH 5605. Computational Practice. (3) Pre-requisite: ARCH 5604 or permission of

instructor. This course is the capstone for digital media and computational studies in the School of Architecture. The goal of this seminar course is to provide students with experience using advanced digital tools and methods, including digital fabrication, parametrics, Building Information Modeling/Management (BIM), scripting, and performance analysis in preparation for professional practice and/or advanced graduate research. (*Spring*)

ARCH 6306/6307: Technology Topic. (3) Prerequisite: ARCH 5305 or permission of instructor. This course focuses on the study of topical areas of technology in architecture. These courses provide an in-depth extension of the five required technology courses. The course may be selected from a number of designated technology courses that examine specific issues contributing to architecture as a process of investigation, innovation, analysis and/or research. May be repeated for credit as course topics change. (*Fall and Spring*)

ARCH 6602. Representation I: Fundamentals. (3) Prerequisite: ARCH 6100, Corequisite: ARCH 6101 or permission of instructor. A fundamental visual and architectural skills course that includes lessons in: visual composition, 2D design and communication, 3D physical models, graphic and photographic image manipulation, and craft in design. The course also includes readings and criticism, which address the artistic and architectural correlation of these skills. (*Fall*)

ARCH 6603. Representation II: Digital Fundamentals. (3) Pre-requisite: ARCH 6602, Co-requisite ARCH 6102. This course introduces students to architectural drafting (2D) and modeling (3D) using digital tools and processes. The expected outcome of this course is a student who is skillful, adaptable, and, most of all, critical towards digital media. (*Spring*)

B. JUSTIFICATION

1. Need: These program additions and adjustments are initiated by 1) changes in the architectural profession, 2) the need to better provide students with the required exiting skills expected by "student performance criteria" required of the National Architectural Accrediting Board (NAAB), and 3) in response to the School of Architecture's 2015 Academic Plan.

New course additions are designed to provide more exposure to advanced technological subjects (sustainable methods, in particular), as well as advance student skills in digital and computational methods. The addition of ARCH 5203: Architectural History III helps decompress the existing two-semester history requirement and also provides additional lessons in contemporary architectural theory.

The reordering and sequencing of coursework in both the 3+ year MArch and 2-year MArch provides a more progressive and balanced sequence of study. Under this proposal architectural design, representation, history/theory, technology, and computation are distributed equitably providing a rich and comprehensive set of learning experiences during each semester of the program.

2. **Prerequisites/Corequisites:** ARCH 6602, 6603, 5604, and 5605 is a new consecutive sequence that provides structured digital skills for the 3+ year curriculum (2-year students

enter the path at ARCH 5604). ARCH 5203: Architectural History III is the capstone to a three course introductory history and theory sequence. ARCH 6306/6307: Technology Topics are advanced topical courses added to the end of the existing five semester technology sequence.

- 3. Course Numbering: As part of this proposal for the MArch curricula, course renumbering shall also be a critical part of these revisions. These minor revisions are being sought under a separate proposal (see separate *Short Form Memo ARCH Graduate 3-16-2011*). This numbering revision is proposed to better distinguish between courses in history/theory and practice, technology, and digital/computational coursework. 5000 level numbering includes both undergraduate and graduate students while 6000 level numbering designate graduate only coursework. All other existing courses required for the degree will remain under current course titles, numberings, and credit values.
- 4. **Intended instructional improvement:** The proposed new coursework and the resequencing and renumbering of courses will greatly enhance the structure and skills for all MArch graduate architecture students. The 3+ year program will focus on introductory design, basic representation skills, and technological principles in the first year, comprehensive design and technological systems in the second year, and advanced design, technology and professional level coursework in the third and final year. 2-year graduate students will engage the last levels of the curriculum already receiving introductory preparation in their prior 4-year undergraduate architecture degrees.

C. IMPACT

1. **Students served:** The program re-sequencing and new course additions are designed for 3+ and 2-year Masters of Architecture students. This program affects all students enrolled in the MArch program. Specific courses required in each course of study are outlined in the two curricular maps attached to this proposal.

ARCH 5203 and 5604, and 5605 are cross-listed with undergraduate architecture curriculum. All other newly proposed courses are graduate only.

2. Effect on existing courses and curricula:

- a. Frequency: All existing and new required coursework will be offered once per year.
- b. Effect on other course offerings: Due to course sequencing, it is important that all newly proposed coursework be taken in sequence. This is due to the progressive and cumulative nature of the course content for these courses. In addition history, representation, computational, and technology coursework will be coordinated with studio-based 61xx and 71xx courses.
- c. **Enrollment:** Enrollment for the MArch shall remain consistent to the 75-85 total students currently in the program.
- d. Effect on enrollment in other courses: ARCH 5203, 5604, and 5605 are cross-listed courses with the undergraduate program. Approximately 30 graduate students plus 45 undergraduates may be enrolled in anyone time. These courses will include separate graduate only recitation/lab sections to accommodate graduate requirements. No

additional effects on enrollment in other courses are generated by this proposal.

- e. **Impact on Previous special topic courses taught:** None of the existing courses affected under this curriculum revision were offered as special topics coursework.
- f. Effect on curricula and catalog copy: Minor adjustments to current catalog copy are to being sought under a separate short form proposal (see separate *Short Form Memo ARCH Graduate 3-16-2011*). New catalog copy has been provided above and with the attached syllabi for new courses. New coursework added to the degree will slightly alter graduation credit hour requirements 96 credit hours for the 3+ year curriculum (currently 89 credits hours) and 60 credit hours for the 2-year curriculum (currently 56 credit hours).

D. RESOURCES REQUIRED TO SUPPORT PROPOSAL

1. Personnel:

- a. New faculty needs: No new faculty will need to be hired to teach this revised curricula.
- b. **Faculty involved in these courses:** Chris Beorkrem, Associate Professor, Dr. Lee E. Gray, Associate Professor; Dr. Emily Makas, Assistant Professor; Eric Sauda, Professor; Nicholas Senske, Assistant Professor; and adjunct faculty.
- 2. **Physical facility**: The School of Architecture has adequate classroom space to accommodate the requirements of this proposal.
- 3. Equipment and supplies: No special equipment or supplies are necessary for this proposal.
- 4. **Computer:** The School of Architecture has adequate computer hardware and software to accommodate any potential requirements of this proposal.
- 5. Audio-visual: The School of Architecture has adequate audio and video equipment to accommodate any potential requirements of this proposal.
- 6. Other resources: No other or special resources are needed to introduce this proposal.
- 7. **Funding:** No special funding is needed to implement this proposal.

E. CONSULTATION WITH THE LIBRARY & OTHER DEPARTMENTS/UNITS

- 1. **Library Consultation**: Library resources are adequate to support the proposed courses. Please see attachment consultation forms.
- 2. Consultation with other departments or units: The proposed changes have been developed under consultation with the Program Coordinator for the School of Architecture's Master of Urban Design program. Input was also received from the Course and Curriculum Committee of the College of Arts + Architecture. No other consultations were necessary as the impact of this curricular change impacts only the School of

Architecture.

F. INITIATION AND CONSIDERATION OF THE PROPOSAL

- 1. **Originating unit:** This proposal was developed, presented, reviewed and approved by the 2010-11 Curriculum Committee of the School of Architecture on March 14, 2011. It was approved by the School of Architecture Faculty on March 16, 2011.
- 2. Other considering units: No other units required.

G. ATTACHMENTS

- Existing and Proposed Curriculum Maps
- ARCH 5203: Architectural History III: Contemporary Modern Theories (1950-Present) Syllabus
- ARCH 5604: Computational Methods Syllabus
- ARCH 5605: Computational Practice Syllabus
- ARCH 6306/6307: Technology Topics Syllabus
- ARCH 6602: Representation I: Fundamentals Syllabus
- ARCH 6603: Representation II: Digital Fundamentals Syllabus
- Corresponding undergraduate syllabi for the six new graduate courses proposed
- Memorandum from Master of Urban Design Program Director (David Walters)
- Consultation on Library Holdings

Existing 3+ Year MArch Curriculum (MArch I)

Year 1

Summer (3 hours) ARCH 5050 Introductory Design Experience (3)

Fall (13 hours)

ARCH 6111 Design Fundamentals Studio (7) ARCH 5211 Architectural History Survey One (3) ARCH 5601 Ideas in Architecture (3)

Spring (15 hours)
ARCH 6112 Design Fundamentals Studio (6)
ARCH 5212 Architectural History Survey Two (3)
ARCH 5312 Architectural Materials (3)
ARCH 5214/ARCH 6050 GA Elective or C Elective (3)

Year 2

Fall (14 hours) ARCH 7101 Design Studio (5) ARCH 5313 Structures One (3) ARCH 5315 Environmental Control Systems (3) ARCH 5213/6050 AH Elective or C Elective (3)

Spring (14 hours)

ARCH 7102 Topical Design Studio (5) ARCH 5314 Structures Two (3) ARCH 6151 Design Methodologies (3) ARCH 5214/ARCH 6050 AH Elective or C Elective (3)

Summer (2 hours) ARCH 7110 Summer Study Program (2)

Year 3

Fall (14 hours) ARCH 7103 Topical Design Studio (5) ARCH 5317 Building Systems Integration (3) ARCH 7111 Project/Thesis Document Prep (3) ARCH 5213/6050 C Elective (3)

Spring (14 hours)

ARCH 7104 Project/Thesis Studio (8) ARCH 5112 Professional Practice (3) ARCH 5213/6050 C Elective (3)

Total Credit Hours = 89

Proposed 3+ Year MArch Curriculum (MArch I)

Year 1

Summer (6 hours) ARCH 6100 Design Studio: Basics (3) ARCH 6601 Ideas in Architecture (3) Fall (15 hours)

ARCH 6101 Design Studio: Fundamentals (6) ARCH 5201 Architectural History I: Prehistory - 1750 (3) ARCH 5301 Material and Assembly Principles (3) ARCH 6602 Representation I: Fundamentals (3) Spring (15 hours) ARCH 6102 Design Fundamentals Studio (6) ARCH 5202 Architectural History II: 1750 - Present (3) ARCH 5302 Environmental Systems Principles (3) ARCH 6603 Representation II: Digital Fundamentals (3) Year 2 Fall (15 hours) ARCH 7101 Design Studio: Comprehensive (6) ARCH 5203 Architectural History III: Survey of Contemporary Theory (1950 - Present) (3) ARCH 5313 Structural Principles (3) ARCH 5604 Computational Methods (3) Spring (15 hours) ARCH 7102 Design Studio: Topical (6)

ARCH 7102 Design Studio: Topical (6) ARCH 7201 Design Methodologies (3) ARCH 5304 Structural Systems (3)

ARCH 6050 Architectural Elective (3)

Summer (3-6 hours - *optional*) ARCH 6050 Architectural Elective (3), or ARCH 7120 Graduate Summer International Study (3)

Year 3

Fall (15 hours)ARCH 7103Design Studio: Topical (6)ARCH 7202Final Project/Thesis Document (3)ARCH 5305Building Systems Integration (3)ARCH 6050Architectural Elective (3)

Spring (15 hours)

ARCH 7104 Final Project/Thesis Studio (6) ARCH 5206 Professional Practice (3) ARCH 5605 Computational Practice (3) ARCH 6050 Architectural Elective (3)

New Total Credit Hours = 96

Existing 2-Year MArch Curriculum (MArch II)

<u>Year 1</u>

Fall (14 hours)ARCH 7101 Design Studio (5)ARCH 5213 AH Elective (3)ARCH 5317 Building Systems Integration (3)ARCH 5213/ARCH 6050 C Elective, GA Elective (3)

Spring (14 hours) ARCH 7102 Design Studio (5) ARCH 6151 Design Methodologies (3) ARCH 6050 C Elective (3) ARCH 5213/ARCH 6050 Any GA Elective (3)

Summer (3 hours - *optional*) ARCH 7120 Graduate Summer International Study (3) ARCH 7950 Graduate Summer Research Study (3)

<u>Year 2</u>

Fall (14 hours)
ARCH 7103 Design Studio (5)
ARCH 7111 Project/Thesis Document Prep (3)
ARCH 5213/ARCH 6050 C Elective, GA Elective (3)
ARCH 5213/ARCH 6050 C Elective, GA Elective (3)

Spring (14 hours)

ARCH 7104 Project/Thesis Studio (8) ARCH 5112 Professional Practice (3) ARCH 5213/ARCH 6050 C Elective, GA Elective (3)

Total Credit Hours = 56

Proposed 2-Year MArch Curriculum (MArch II)

<u>Year 1</u> Fall (15 hours) ARCH 7101 Design Studio: Comprehensive (6) ARCH 5203 Architectural History III: Survey of Contemporary Theory (1950 – Present) (3) ARCH 5305 Building Systems Integration (3) ARCH 5604 Computational Methods (3) Spring (15 hours) ARCH 7102 Design Studio: Topical (6) ARCH 7201 Design Methodologies (3) ARCH 6306 Techology Topic (3) ARCH 6050 Architectural Elective (3) Summer (3-6 hours - optional) ARCH 6050 Architectural Elective (3), or ARCH 7120 Graduate Summer International Study (3), or ARCH 7950 Graduate Summer Research Study (3) Year 2 Fall (15 hours) ARCH 7103 Design Studio: Topical (6)

ARCH 7103 Design Studio: Topical (6) ARCH 7202 Final Project/Thesis Document (3) ARCH 6307 Techology Topic (3) ARCH 6050 Architectural Elective (3)

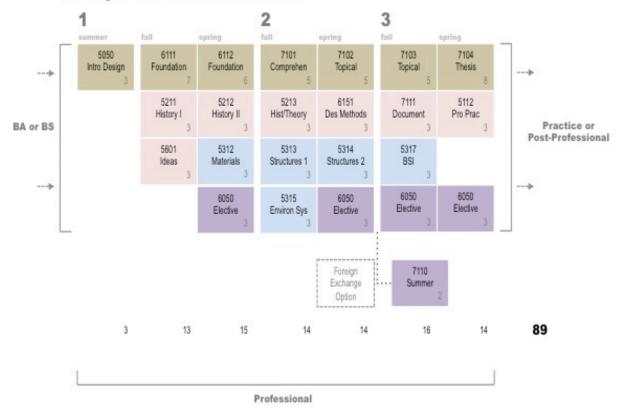
Spring (15 hours)

ARCH 7104 Final Project/Thesis Studio (6) ARCH 5206 Professional Practice (3) ARCH 5605 Computational Practice (3) ARCH 6050 Architectural Elective (3)

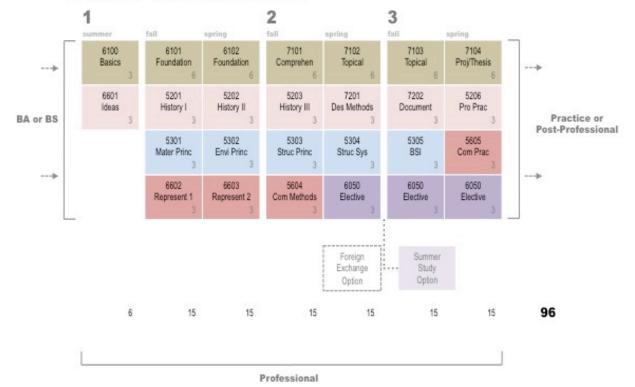
New Total Credit Hours = 60

Master of Architecture

Existing 3+ Year Graduate Curriculum



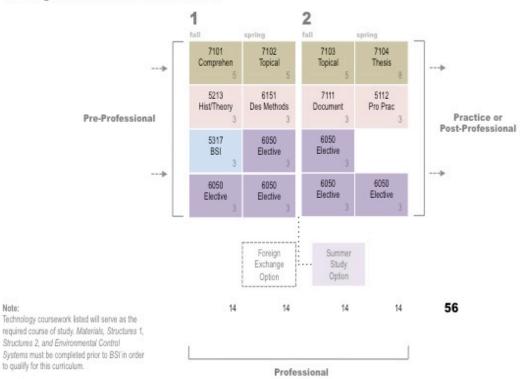
Master of Architecture Proposed 3+ Year Graduate Curriculum



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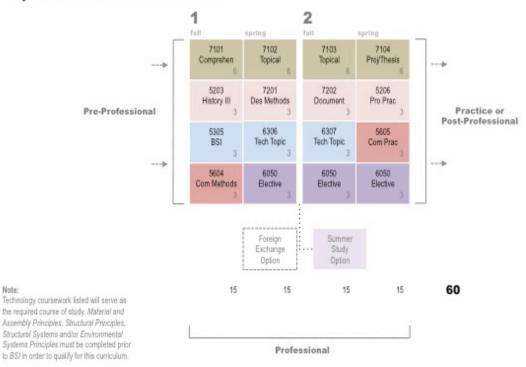
Master of Architecture

Existing 2 Year Graduate Curriculum



Master of Architecture **Proposed 2 Year Graduate Curriculum**

Note:



COURSE NUMBER

ARCH 5203 (new course, cross-listed with ARCH 4203)

COURSE TITLE

Architectural History III: Survey of Contemporary Theory (1950 - Present).

CATALOG DESCRIPTION

ARCH 5203: Architectural History III: Survey of Contemporary Theory (1950 - Present). (3) Prerequisite: ARCH 5202 or permission of instructor. This course is a survey of architecture theory from 1950 to the present. It focuses on the key ideas, texts, debates, and discourse that have informed architectural practice in the late twentieth and early twenty-first century. It is a required course for Bachelor of Arts in Architecture students. (*Fall*)

PRE- or CO-REQUISITES

Pre-requisite: ARCH 5202.

OBJECTIVES

This course consists of a survey of contemporary architectural theory from 1950 to the present. It builds upon Architectural History and Theory I and II (ARCH 5201 and ARCH 5202) in that it will revisit critical ideas touched in these courses in greater depth. While architectural theory constitutes a key aspect of the first two courses in the architectural history sequence, this course offers students the opportunity to focus on the key ideas that inform much of contemporary architectural practice.

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.7 Use of Precedents, A.9 Historical Traditions and Global Culture, and A.10 Cultural Diversity.

INSTRUCTIONAL METHOD

The material will be presented through lectures, assigned readings, written assignments, and individual student research investigations.

During the course of the semester you will complete a series a of written assignments that will culminate in what, for the time being, you may think of as *My Little Book of Architectural Theory*. The majority of the assignments will require you to demonstrate your understanding of the architectural theory examined in the various readings and in lectures, thus completing the required reading – preferably prior to class – will be a critical factor in your success in this course.

The final product and culmination of this course will be your personal "little book of theory." Its contents must include but are not limited to the following: a clear statement of your personal architectural theory, a substantive body of text in which you provide a thorough intellectual grounding of your theory within the context of contemporary theory as explored in readings, lectures and discussions; and illustrations of architectural works that exemplify the ideas contained within your theory. Your "little book of theory" will be self-published (through Lulu or a similar on-line venue) and its design should also reflect the essence of your theoretical position. There is no set length requirement, however its organization and overall composition must correspond to normative standards associated with graduate work.

An outline of the course schedule with dates, including topics, readings, guests, due dates, scheduled presentations and other relevant information. The weekly schedule of topics is as follows:

August

- 1a Introduction
- 1b Architectural Theory Prior to 1950
- 1G Graduate Seminar Meeting
- 2a Architectural Theory Prior to 1950 Assignment #1 Due
- 2b Architectural Theory Prior to 1950
- 2G Graduate Seminar Meeting

September	3a 3b 3G 4a 4b 4G 5a 5b 5G	Labor Day 1950 - 1954 Graduate Seminar Meeting 1955 – 1959 1960 - 1964 Graduate Seminar Meeting 1965 - 1967 1968 Graduate Seminar Meeting	Assignment #2 Due
	6a	1968: Redux and Recap No Class	Assignment #3 Due
October	7a 7b 7G	No Class 1969 - 1974 1969 - 1974 Graduate Seminar Meeting	
	8a 8b	Fall Break Supermannerism	Assignment #4 Due
	8G 9a	Graduate Seminar Meeting 1975 - 1979	
	9b	1975 - 1979	
	9G	Graduate Seminar Meeting	
	10a	1980 – 1984	Assignment #5 Due
	10b	1980 - 1984	
	10G 11a	Graduate Seminar Meeting 1985 - 1989	
November	11a 11b	1985 - 1989	
November	11G	Graduate Seminar Meeting	
	12a	1990 - 1994	
	12b	1990 - 1994	
	12G	Graduate Seminar Meeting	
	13a	1996 - 1999	
	13b	1996 - 1999	
	13G	Graduate Seminar Meeting	
	14a	Architectural Theory and the New	Millennium
		Thanksgiving Break	
	15a	Thanksgiving Break 2001 – 2004	Lulu (or equivalent) Receipt Due
	15a 15b	2001 - 2004	Eulu (or equivalent) Receipt Due
December	15G	Graduate Seminar Meeting	
	16a	2005 - 2010	
	16b	2005 - 2010	
	17	Book of Architectural Theory	Due by 5:00

EVALUATION

The distribution of course assignments will be as follows:

Assignment Description	Weight for Course (%)
Assignment No. 1	5%
Assignment No. 2	5%
Assignment No. 3	5%
Assignment No. 4	10%
Assignment No. 5	10%
Assignment No. 6	15%
My Little Book of Theory	<u>50%</u>
	100%

Graduate Requirement: In addition to weekly lectures all graduate students will also participate in weekly seminar sessions during which assigned readings will be formally presented by the student and discussed within a seminar format.

POLICIES

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: http://www.legal.uncc.edu/policies/ps-105.html.

Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the Graduate Catalog. For more information about these polices, please refer to the appropriate documents, which can be found online at: <u>http://graduateschool.uncc.edu/</u>.

Grading of courses conform to the following grading scales and values:

Graduate Scale & Values

А	90-100	Commendable
В	80-89	Satisfactory
С	70-79	Marginal
U	69 & Below	Unsatisfactory

These grades are determined according to the following criteria:

Grad A (Commendable): Meets or exceeds stated requirements of the course; exhibits significant improvement, development, and/or intellectual growth over the course of the term; exhibits research efforts from which both the instructor and students may learn; all work turned in on time and presented in a professional manner.

Grad B (Satisfactory): Meets the stated requirements of the course; exhibits good improvement, development, and/or intellectual growth over the semester; provides a measure for student emulation; and all work is turned in on time and well presented.

Grad C (Marginal): Fails to meet most requirements of the course (the work is incomplete to a significant degree); exhibits little or no improvement, development, and/or intellectual growth over the semester; and/or work is of a caliber only marginally acceptable at the graduate level.

Grad U (Unsatisfactory): Fails to meet the requirements of the course; and/or the work is incomplete or of a caliber unacceptable at the graduate level. A grade of U will affect eligibility for continued enrollment and will not apply towards degree requirements.

Disability: If you have a diagnosed disability which influences your ability to learn or have your work assessed in the classroom, all efforts will be made to meet your needs. Please provide a copy of your Letter of Accommodation from the UNC Charlotte Office of Disability Services by the end of the second week of classes. Their office is located in 230 Fretwell and more information is available online at: http://www.ds.uncc.edu/. All information about your disability and accommodations will remain

confidential. Please see the instructor if you are interested in being an official scribe (note taker) for this course. Your notes will be made available to others in the class with special needs.

Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may request an excused absence. If the student notifies the instructor of the classes to be missed due to religious holy days by the end of the second week of classes, the student will be excused. (Eligible religions are those whose places of worship are exempt from property taxation.)

Diversity and Respectful Interaction: All perspectives and opinions are welcomed and will be respected in this classroom or studio, as long as they are presented in manner that is respectful. Intolerance will not be tolerated. Be mindful of your conduct when engaged in experiences and discourses with those who differ from you in appearance, race, ethnicity, beliefs, gender, sexuality, style, politics or intellectual position. If you feel personally uncomfortable or alienated, or that diversity in general is any way stifled in this class, please let the instructor know so that the situation can be remedied.

Be especially aware that studios are a public place, so be sensitive to images and other materials around your desk, including on your computer, which might be offensive to others. In addition, all students are required to abide by the sprit and the specifics of the UNC Charlotte Sexual Harassment Policy, which can be found online at: http://www.legal.uncc.edu/policies/ps-61.html.

Culture: Students and instructors alike share responsibility for the collective culture of all SoA courses, all participants are expected to enhance its intellectual life by being present, pro-active, and respectful. All courses actively comply with and promote the SoA and CoAA culture policies, with which it is assumed you are aware. The SoA culture policy is available online at: http://www.coaa.uncc.edu/Academics/School-of-architecture/About.

Electronics: At all time during class cell phones, computers and other devices should be switched off and put away, unless permission to use those devices has been explicitly given by the instructor. All students are required to abide by the UNC Charlotte policy on Responsible Use of University Computing and Electronic Communication Resources, which can be found online at: http://www.legal.uncc.edu/policies/ps-66.html. Remember that harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.

TEXTBOOKS AND RESOURCES

Required Texts: K. Michael Hays, *Architecture Theory Since 1968*, MIT Press (1998). A. Krista Sykes, *Constructing a New Agenda: Architectural Theory 1993-2009*, Princeton Architectural Press (2010).

Reserve Reading: Joan Ockman, *Architecture Culture 1943 – 1968: A Documentary Anthology*, Columbia Books of Architecture/Rizzoli (1993) Harry F. Mallgrave, *Modern Architectural Theory: A Historical Survey*, *1673 – 1968*, Cambridge University Press (2005) The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: http://www.religiousstudies.uncc.edu/research/writingguideformat.htm.

For assistance with research, students are encouraged to contact Architectural Research Librarian Shannon Paul at spaul9@uncc.edu and ask questions via email or make an appointment to talk with her.

For assistance with writing, students are encouraged to contact the UNC Charlotte Writing Resource Center for free, individual consultations on all stages of the research paper and presentation process. You can reach them by email at wrchelp@uncc.edu or stop by their offices in Fretwell 220. Additional information about the WRC can be found online at http://www.uncc.edu/writing/wrc.html.

COURSE NUMBER

ARCH 5604 (new course, cross-listed with ARCH 4604)

COURSE TITLE

Computational Methods

CATALOG DESCRIPTION

ARCH 5604 Computational Methods. (3) Pre-requisite: ARCH 6603 or permission of instructor, Corequisite: ARCH 7101. This course introduces students to the fundamental concepts of computation through explorations with basic scripting and parametric tools. The goal is to understand the potential of computation and the role it can play as part of one's design process; not as a collection of specific tools, but as a way of thinking about design. *(Fall)*

PRE- or CO-REQUISITES

Pre-requisite: ARCH 6603, Corequisite: ARCH 7101 or permission of instructor.

OBJECTIVES

- Acquire computational design skills; basic generative scripting, parametric design
- Acquire knowledge of fundamental computational concepts, their history, and how they relate to design and architecture
- Acquire knowledge of important figures, movements, and works within and related to computational design
- Acquire a critical understanding of the strengths and limitations of various kinds of computing
- Acquire strategies for computing efficiently and effectively

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, and A.8 Ordering System Skills.

INSTRUCTIONAL METHOD

This course is lecture-based with a weekly lab/recitation session. Lectures introduce topics and frame them within an architectural and historical context. Lab sessions demonstrate concepts and methods in an interactive setting and provide students with the opportunity to practice and troubleshoot their skills homework. Class "study" projects invite students to examine the analytic and expressive potential of computational methods. A final project asks students to critically reflect on the ideas of the course and how these relate to their developing understanding of design. The weekly topic outline shall be as follows:

Week 1	Introduction to Computation / Code		
Week 2	Variables/ Math / Conditionals		
Week 3	Iteration / Recursion / Debugging		
Week 4	Functions/ Abstraction/ Algorithm/ Randomness		
Week 5	Data Types / Media Representation / Data Viz (Study One due)		
Week 6	Simulation / Artificial Life		
Week 7	More Abstraction/ Objects		
Week 8	Spring Break		
Week 9	3D Review / Topology/ Curvature (Study Two due)		
Week 10	Basic Parametrics		
Week 11	Paneling and Series		
Week 12	Typology and Families		
Week 13	Performative Systems		
Week 14	Data Integration / Mapping (Study Three due)		
Week 15	Evolution and Optimization		
Week 16	Code Redux (Final due during exam week)		

EVALUATION

Include the type and number of student products expected. Describe relative weight of each exercise.

Assignment Description	Weight for Course (%)
Daily Homework/ Practice	50%
Study One – Drawing Machine	10%
Study Two – Generative System	10%
Study Three – Parametric Family/ Assembly	10%
Final or Case Study Project	20%
	100%

Graduate Requirements: For the weekly lessons above, graduate students will be required to submit 200 word essays covering examples of specific uses, perform practice iterations, and complete a case study project in lieu of the undergraduate reflective final.

POLICIES

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: http://www.legal.uncc.edu/policies/ps-105.html.

Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the Graduate Catalog. For more information about these polices, please refer to the appropriate documents, which can be found online at: <u>http://graduateschool.uncc.edu/</u>.

Grading of courses conform to the following grading scales and values:

Graduate Scale & Values

Α	90-100	Commendable
В	80-89	Satisfactory
С	70-79	Marginal
U	69 & Below	Unsatisfactory

These grades are determined according to the following criteria:

Grad A (Commendable): Meets or exceeds stated requirements of the course; exhibits significant improvement, development, and/or intellectual growth over the course of the term; exhibits research efforts from which both the instructor and students may learn; all work turned in on time and presented in a professional manner.

Grad B (Satisfactory): Meets the stated requirements of the course; exhibits good improvement, development, and/or intellectual growth over the semester; provides a measure for student emulation; and all work is turned in on time and well presented.

Grad C (Marginal): Fails to meet most requirements of the course (the work is incomplete to a significant degree); exhibits little or no improvement, development, and/or

intellectual growth over the semester; and/or work is of a caliber only marginally acceptable at the graduate level.

Grad U (Unsatisfactory): Fails to meet the requirements of the course; and/or the work is incomplete or of a caliber unacceptable at the graduate level. A grade of U will affect eligibility for continued enrollment and will not apply towards degree requirements.

Disability: If you have a diagnosed disability which influences your ability to learn or have your work assessed in the classroom, all efforts will be made to meet your needs. Please provide a copy of your Letter of Accommodation from the UNC Charlotte Office of Disability Services by the end of the second week of classes. Their office is located in 230 Fretwell and more information is available online at: http://www.ds.uncc.edu/. All information about your disability and accommodations will remain confidential. Please see the instructor if you are interested in being an official scribe (note taker) for this course. Your notes will be made available to others in the class with special needs.

Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may request an excused absence. If the student notifies the instructor of the classes to be missed due to religious holy days by the end of the second week of classes, the student will be excused. (Eligible religions are those whose places of worship are exempt from property taxation.)

Diversity and Respectful Interaction: All perspectives and opinions are welcomed and will be respected in this classroom or studio, as long as they are presented in manner that is respectful. Intolerance will not be tolerated. Be mindful of your conduct when engaged in experiences and discourses with those who differ from you in appearance, race, ethnicity, beliefs, gender, sexuality, style, politics or intellectual position. If you feel personally uncomfortable or alienated, or that diversity in general is any way stifled in this class, please let the instructor know so that the situation can be remedied.

Be especially aware that studios are a public place, so be sensitive to images and other materials around your desk, including on your computer, which might be offensive to others. In addition, all students are required to abide by the sprit and the specifics of the UNC Charlotte Sexual Harassment Policy, which can be found online at: http://www.legal.uncc.edu/policies/ps-61.html.

Culture: Students and instructors alike share responsibility for the collective culture of all SoA courses, all participants are expected to enhance its intellectual life by being present, pro-active, and respectful. All courses actively comply with and promote the SoA and CoAA culture policies, with which it is assumed you are aware. The SoA culture policy is available online at: http://www.coaa.uncc.edu/Academics/School-of-architecture/About.

Electronics: At all time during class cell phones, computers and other devices should be switched off and put away, unless permission to use those devices has been explicitly given by the instructor. All students are required to abide by the UNC Charlotte policy on Responsible Use of University Computing and Electronic Communication Resources, which can be found online at: http://www.legal.uncc.edu/policies/ps-66.html. Remember that harassment, as defined in the UNC

Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.

TEXTBOOKS AND RESOURCES

The following texts and bibliographic materials are required in this course:

B. Fry and C.Reas, *Processing: A Handbook for Visual Artists and Designers* (Cambridge, MA: MIT Press, 2007).

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: <u>http://www.religiousstudies.uncc.edu/research/writingguideformat.htm</u>.

For assistance with research, students are encouraged to contact Architectural Research Librarian Shannon Paul at <u>spaul9@uncc.edu</u> and ask questions via email or make an appointment to talk with her.

For assistance with writing, students are encouraged to contact the UNC Charlotte Writing Resource Center for free, individual consultations on all stages of the research paper and presentation process. You can reach them by email at <u>wrchelp@uncc.edu</u> or stop by their offices in Fretwell 220. Additional information about the WRC can be found online at <u>http://www.uncc.edu/writing/wrc.html</u>.

COURSE NUMBER

ARCH 5605 (new course, cross-listed with ARCH 4605)

COURSE TITLE

Computational Practice

CATALOG DESCRIPTION

ARCH5605. Computational Practice (3). Pre-requisite: ARCH 5604 or permission of instructor. This course is the capstone for digital media and computational studies in the School of Architecture. The goal of this seminar course is to provide students with experience using advanced digital tools and methods, including digital fabrication, parametrics, Building Information Modeling/Management (BIM), scripting, and performance analysis in preparation for professional practice and/or advanced graduate research. (*Spring*)

PRE- or CO-REQUISITES

Pre-requisite: ARCH 5604 or permission of instructor.

OBJECTIVES

- To acquire skills in advanced digital and computational tools and methods (Revit, Grasshopper, Gehry Technologies)
- To develop problem-solving skills with these methods and investigate new applications for them in practice
- To explore the uses of digital fabrication to create unconventional form and reduce material waste
- To cultivate a critical mindset regarding the strengths and limitations of logical and procedural systems within the design process
- To create more informed designs through the integration of ecological data and performance criteria
- To maintain and refine the ideas of the Strategic Computing Framework

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.8 Ordering System Skills, and A.11 Applied Research.

INSTRUCTIONAL METHOD

This course is lecture-based with a weekly lab/recitation session. Students will be given lectures and live demonstrations, perform short-term design assignments, and make preliminary and formal project presentations. Weekly areas of instruction shall include:

Week 1:	parametric models: application and use
Week 2/3	parametric models: building information modeling
Week 4/5	complex modeling: Gehry Technologies
Week 6	digital fabrication: laser and prototyping practices
Week 7	digital fabrication: CNC soft materials router
Week 8	digital fabrication: plasma cutting tools
Week 9/10	ecological modeling
Week 11/12	performance and simulation modeling systems
Week 13/14	strategic computing frameworks
Week 15/16	project application and research

EVALUATION

Assignment Description	Weight for Course (%)
Project No. 1: Parametric Systems	20%
Project No. 2: Materiality and Fabrication	20%

Project No. 3: Environmentally-Linked Systems	20%
Final Project: Independent Study (conference/competition)	40%
	100%

Graduate Requirements: In addition to more rigorous project assessments than their undergraduate counterparts, graduate students' independent project must be submitted to a conference (e.g. ACADIA, ACSA, ARCC) or a peer-reviewed competition entry. Students are required to complete all work necessary for submission in order to meet the graduate-level demands of the course.

POLICIES

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Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

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Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may request an excused absence. If the student notifies the instructor of the classes to be missed due to religious holy days by the end of the second week of classes, the student will be excused. (Eligible religions are those whose places of worship are exempt from property taxation.)

Diversity and Respectful Interaction: All perspectives and opinions are welcomed and will be respected in this classroom or studio, as long as they are presented in manner that is respectful. Intolerance will not be tolerated. Be mindful of your conduct when engaged in experiences and discourses with those who differ from you in appearance, race, ethnicity, beliefs, gender, sexuality, style, politics or intellectual position. If you feel personally uncomfortable or alienated, or that diversity in general is any way stifled in this class, please let the instructor know so that the situation can be remedied.

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Culture: Students and instructors alike share responsibility for the collective culture of all SoA courses, all participants are expected to enhance its intellectual life by being present, pro-active, and respectful. All courses actively comply with and promote the SoA and CoAA culture policies, with which it is assumed you are aware. The SoA culture policy is available online at: http://www.coaa.uncc.edu/Academics/School-of-architecture/About.

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TEXTBOOKS AND RESOURCES

The following texts and bibliographic materials are required in this course:

Paul Skidmore Seletsky, "The Digital Design Ecosystem: Toward a Pre-Rational Architecture Owings & Merrill," *Provisional: Emerging Modes of Architectural Practice*, ed. Craig Mutter (New York: Princeton, 2009).

Napier, Tom. "Construction Waste Management." *Whole Building Design Guide*. 15 June 2007. US Army Corps of Engineers 11 Apr. 2008 (http://www.wbdg.org/resources/cwmgmt.php)

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: http://www.religiousstudies.uncc.edu/research/writingguideformat.htm.

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COURSE NUMBER

ARCH 6306/6307 (new course)

COURSE TITLE

Technology Topic

CATALOG DESCRIPTION

ARCH 6306/6307: Technology Topic. (3) Prerequisite: ARCH 5305 or permission of instructor. This course focuses on the study of topical areas of technology in architecture. These courses provide an indepth extension of the five required technology courses. The course may be selected from a number of designated technology courses that examine specific issues contributing to architecture as a process of investigation, innovation, analysis and/or research. May be repeated for credit as course topics change. *(Fall/Spring)*

PRE- or CO-REQUISITES

Pre-requisite: ARCH 5305.

OBJECTIVES

This advanced level course will offer the student knowledge and/or application in the area of technological developments in architectural design. Courses offered will address the historical, theoretical, instrumental, and innovative use of technology as important to the development and advancement of buildings. Research may be scholarly, applied, and/or related to the practice of these advanced technologies. The primary objective is to allow the student sufficient depth in the subject area in order to expand their knowledge and/or ability to implement such knowledge in practice and/or research.

NAAB Criteria: Dependent on subject and content of the course.

INSTRUCTIONAL METHOD

Specific methodologies – including: information and data gathering, report writing, analysis, modeling, simulations, experimentation, and/or applied research or practice – will be a requirement for this course. Weekly topics will be presented in lecture and seminar discussion format.

EVALUATION

The distribution of course assignments will be as follows (requirements vary depending on the specific subject area):

Assignment Description	Weight for Course (%)
Preliminary Assignments (5@ 10%)	50%
Final Project/Research	<u>50%</u>
	100%

This course is only available to graduate students.

POLICIES

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: http://www.legal.uncc.edu/policies/ps-105.html.

Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the Graduate Catalog. For more information about these polices, please refer to the appropriate documents, which can be found online at: http://graduateschool.uncc.edu/.

Grading of courses conform to the following grading scales and values:

Graduate Scale & Values

Α	90-100	Commendable
В	80-89	Satisfactory
С	70-79	Marginal
U	69 & Below	Unsatisfactory

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Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may request an excused absence. If the student notifies the instructor of the classes to be missed due to religious holy days by the end of the second week of classes, the student will be excused. (Eligible religions are those whose places of worship are exempt from property taxation.)

Diversity and Respectful Interaction: All perspectives and opinions are welcomed and will be respected in this classroom or studio, as long as they are presented in manner that is respectful.

Intolerance will not be tolerated. Be mindful of your conduct when engaged in experiences and discourses with those who differ from you in appearance, race, ethnicity, beliefs, gender, sexuality, style, politics or intellectual position. If you feel personally uncomfortable or alienated, or that diversity in general is any way stifled in this class, please let the instructor know so that the situation can be remedied.

Be especially aware that studios are a public place, so be sensitive to images and other materials around your desk, including on your computer, which might be offensive to others. In addition, all students are required to abide by the sprit and the specifics of the UNC Charlotte Sexual Harassment Policy, which can be found online at: http://www.legal.uncc.edu/policies/ps-61.html.

Culture: Students and instructors alike share responsibility for the collective culture of all SoA courses, all participants are expected to enhance its intellectual life by being present, pro-active, and respectful. All courses actively comply with and promote the SoA and CoAA culture policies, with which it is assumed you are aware. The SoA culture policy is available online at: http://www.coaa.uncc.edu/Academics/School-of-architecture/About.

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TEXTBOOKS AND RESOURCES

Required and supplementary bibliography shall be assigned specific to the technological area of study required of this topics course.

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: http://www.religiousstudies.uncc.edu/research/writingguideformat.htm.

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COURSE NUMBER

ARCH 6602 (new course)

COURSE TITLE Representation I: Fundamentals

CATALOG DESCRIPTION

ARCH 6602. Representation I: Fundamentals. (3) Prerequisite: ARCH 6100, Corequisite: ARCH 6101 or permission of instructor. A fundamental visual and architectural skills course that includes lessons in: visual composition, 2D design and communication, 3D physical models, graphic and photographic image manipulation, and craft in design. The course also includes readings and criticism, which address the artistic and architectural correlation of these skills. *(Fall)*

PRE- or CO-REQUISITES

Prerequisite: ARCH 6100, Corequisite: ARCH 6101 or permission of instructor.

OBJECTIVES

This skill-based course addresses architectural skills and making etiquette fundamental to design thinking and ideation. The course emphasizes visual representation and communication, with assignments that include: composition, drawing, color, collage and modeling techniques. The conventions of architectural representation will be stressed as well as the poetic and artistic means architects visualize design and the creative process. Specific objectives will focus on: composition, ordering principles, Gestalt visual readings, collage, use of analysis in design, and making and craft skills. Techniques will include both traditional representation and an introduction to digital image manipulation.

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills and A.3 Visual Communication Skills.

INSTRUCTIONAL METHOD

The pedagogical method for this course is lecture and laboratory-based. Students will be given lectures and perform graphic and modeling assignments. Weekly lessons include:

Week 1/2	Precedents in Observation and Visual Theory
Week 3/4	Composition and Orthography
Week 5/6	The Nature of Freehand Drawing and Sketching
Week 7/8	3D Representational Techniques
Week 9/10	Perspective
Week 11/12	The Tradition of Collage Technique
Week 13/14	Architectural Models
Week 15/16	Architectural Portfolios

EVALUATION

The distribution of course assignments will be as follows:

Assignment Description	Weight for Course (%)
Assignment No. 1: Observation	10%
Assignment No. 2: Composition	10%
Assignment No. 3: Freehand Drawing	10%
Assignment No. 4: Axonometrics	10%
Assignment No. 5: Perspective	10%
Assignment No. 6: Collage	15%
Assignment No. 7: Modeling	15%
Assignment No. 8: Portfolios	15%
Journal and Semester Development	<u>5%</u>

100%

This course is only available to graduate students.

POLICIES

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: http://www.legal.uncc.edu/policies/ps-105.html.

Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the Graduate Catalog. For more information about these polices, please refer to the appropriate documents, which can be found online at: <u>http://graduateschool.uncc.edu/</u>.

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В	80-89	Satisfactory
С	70-79	Marginal
U	69 & Below	Unsatisfactory

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confidential. Please see the instructor if you are interested in being an official scribe (note taker) for this course. Your notes will be made available to others in the class with special needs.

Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

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Diversity and Respectful Interaction: All perspectives and opinions are welcomed and will be respected in this classroom or studio, as long as they are presented in manner that is respectful. Intolerance will not be tolerated. Be mindful of your conduct when engaged in experiences and discourses with those who differ from you in appearance, race, ethnicity, beliefs, gender, sexuality, style, politics or intellectual position. If you feel personally uncomfortable or alienated, or that diversity in general is any way stifled in this class, please let the instructor know so that the situation can be remedied.

Be especially aware that studios are a public place, so be sensitive to images and other materials around your desk, including on your computer, which might be offensive to others. In addition, all students are required to abide by the sprit and the specifics of the UNC Charlotte Sexual Harassment Policy, which can be found online at: http://www.legal.uncc.edu/policies/ps-61.html.

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TEXTBOOKS AND RESOURCES

The following texts are required for this course:

• Simon Unwin, Anaylzing Architecture (London: Routledge, 2009).

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: <u>http://www.religiousstudies.uncc.edu/research/writingguideformat.htm</u>.

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For assistance with writing, students are encouraged to contact the UNC Charlotte Writing Resource Center for free, individual consultations on all stages of the research paper and presentation process. You can reach them by email at wrclelp@wrcc.edu or stop by their offices in Fretwell 220. Additional information about the WRC can be found online at http://www.uncc.edu/writing/wrc.html.

COURSE NUMBER

ARCH 6603 (new course)

COURSE TITLE Representation II: Digital Fundamentals

CATALOG DESCRIPTION

ARCH 6603. Representation II: Digital Fundamentals. (3) Pre-requisite: ARCH 6602, Co-requisite ARCH 6102. This course introduces students to architectural drafting (2D) and modeling (3D) using digital tools and processes. The expected outcome of this course is a student who is skillful, adaptable, and, most of all, critical towards digital media. (*Spring*)

PRE- or CO-REQUISITES

Pre-requisite: ARCH 6602, Co-requisite ARCH 6102.

OBJECTIVES

- Acquire digital drafting and modeling skills (Autocad and Rhinoceros 3D)
- Expand students' ability to generate, analyze, and communicate through digital means
- · Impart a knowledge of strategic (efficient and effective) computing practices
- · Establish norms of digital quality and craft
- Prepare students with the skills and concepts needed for advanced computational investigation

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.7 Use of Precedents, and A.8 Ordering System Skills.

INSTRUCTIONAL METHOD

Through an intensive series of daily exercises culminating in a weekly review, students progress from the acquisition of basic skills to a strategic outlook informed by the generative and representational opportunities – and limitations – of design computing. Lectures situate these investigations within architectural convention and define fundamental concepts common to design software. Weekly assignments and final projects synthesize concepts and demonstrate mastery. Pin-ups and discussions serve to articulate notions of digital craft and quality. Weekly lessons include:

- Week 1 Introduction to Measured Drawing/ Line & Output
- Week 2 Compound Lines & Modifiers
- Week 3 Tracing/ Layers / Diagramming
- Week 4 Iterative/ Modular Generation
- Week 5 Orthographic Projection / Scale/ Layout
- Week 6 Linear Perspective & Other Projections
- Week 7 Midterm Project Workshop (*Midterm Due*)
- Week 8 Spring Break
- Week 9 Introduction to 3D Topology and Modeling
- Week 10 Compound Surfaces
- Week 11 Surface Editing / Solid Modeling
- Week 12 Orthographic Process 2D to 3D
- Week 13 3D Camera / Projection/ Make2D 3D to 2D
- Week 14 Basic Lighting, Materials & Rendering
- Week 15 Integration Workshop
- Week 16 Final Reviews (*Final Project Due*)

EVALUATION

Assignment Description

Weekly Assignments (12) – skills demonstration	50%
Midterm Project – comprehensive drafting/drawing practicum	25%
Final Project – comprehensive modeling practicum	
	100%

This course is only available to graduate students.

POLICIES

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: http://www.legal.uncc.edu/policies/ps-105.html.

Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the Graduate Catalog. For more information about these polices, please refer to the appropriate documents, which can be found online at: <u>http://graduateschool.uncc.edu/</u>.

Grading of courses conform to the following grading scales and values:

Graduate Scale & Values

А	90-100	Commendable
В	80-89	Satisfactory
С	70-79	Marginal
U	69 & Below	Unsatisfactory

These grades are determined according to the following criteria:

Grad A (Commendable): Meets or exceeds stated requirements of the course; exhibits significant improvement, development, and/or intellectual growth over the course of the term; exhibits research efforts from which both the instructor and students may learn; all work turned in on time and presented in a professional manner.

Grad B (Satisfactory): Meets the stated requirements of the course; exhibits good improvement, development, and/or intellectual growth over the semester; provides a measure for student emulation; and all work is turned in on time and well presented.

Grad C (Marginal): Fails to meet most requirements of the course (the work is incomplete to a significant degree); exhibits little or no improvement, development, and/or intellectual growth over the semester; and/or work is of a caliber only marginally acceptable at the graduate level.

Grad U (Unsatisfactory): Fails to meet the requirements of the course; and/or the work is incomplete or of a caliber unacceptable at the graduate level. A grade of U will affect eligibility for continued enrollment and will not apply towards degree requirements.

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week of classes. Their office is located in 230 Fretwell and more information is available online at: http://www.ds.uncc.edu/. All information about your disability and accommodations will remain confidential. Please see the instructor if you are interested in being an official scribe (note taker) for this course. Your notes will be made available to others in the class with special needs.

Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may request an excused absence. If the student notifies the instructor of the classes to be missed due to religious holy days by the end of the second week of classes, the student will be excused. (Eligible religions are those whose places of worship are exempt from property taxation.)

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Be especially aware that studios are a public place, so be sensitive to images and other materials around your desk, including on your computer, which might be offensive to others. In addition, all students are required to abide by the sprit and the specifics of the UNC Charlotte Sexual Harassment Policy, which can be found online at: http://www.legal.uncc.edu/policies/ps-61.html.

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TEXTBOOKS AND RESOURCES

The following texts and bibliographic materials are required in this course: Handouts available on Moodle course website.

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: <u>http://www.religiousstudies.uncc.edu/research/writingguideformat.htm</u>.

For assistance with research, students are encouraged to contact Architectural Research Librarian Shannon Paul at spaul@uncc.edu and ask questions via email or make an appointment to talk with her.

For assistance with writing, students are encouraged to contact the UNC Charlotte Writing Resource Center for free, individual consultations on all stages of the research paper and presentation process. You can reach them by email at wrchelp@uncc.edu or stop by their offices in Fretwell 220. Additional information about the WRC can be found online at http://www.uncc.edu/writing/wrc.html.

COURSE NUMBER

ARCH 4203 (new course, cross-listed with ARCH 5203)

COURSE TITLE

Architectural History III: Survey of Contemporary Theory (1950 - Present).

CATALOG DESCRIPTION

ARCH 4203: Architectural History III: Survey of Contemporary Theory (1950 - Present). (3) Prerequisite: ARCH 4202 or permission of instructor. This course is a survey of architecture theory from 1950 to the present. It focuses on the key ideas, texts, debates, and discourse that have informed architectural practice in the late twentieth and early twenty-first century. It is a required course for Bachelor of Arts in Architecture students. (*Fall*)

PRE- or CO-REQUISITES

Pre-requisite: ARCH 4202.

OBJECTIVES

This course consists of a survey of contemporary architectural theory from 1950 to the present. It builds upon Architectural History and Theory I and II (ARCH 4201 and ARCH 4202) in that it will revisit critical ideas touched in these courses in greater depth. While architectural theory constitutes a key aspect of the first two courses in the architectural history sequence, this course offers students the opportunity to focus on the key ideas that inform much of contemporary architectural practice.

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.7 Use of Precedents, A.9 Historical Traditions and Global Culture, and A.10 Cultural Diversity.

INSTRUCTIONAL METHOD

The material will be presented through lectures, assigned readings, written assignments, and individual student research investigations.

During the course of the semester you will complete a series a of written assignments that will culminate in what, for the time being, you may think of as *My Little Book of Architectural Theory*. The majority of the assignments will require you to demonstrate your understanding of the architectural theory examined in the various readings and in lectures, thus completing the required reading – preferably prior to class – will be a critical factor in your success in this course.

The final product and culmination of this course will be your personal "little book of theory." Its contents must include but are not limited to the following: a clear statement of your personal architectural theory, a substantive body of text in which you provide a thorough intellectual grounding of your theory within the context of contemporary theory as explored in readings, lectures and discussions; and illustrations of architectural works that exemplify the ideas contained within your theory. Your "little book of theory" will be self-published (through Lulu or a similar on-line venue) and its design should also reflect the essence of your theoretical position. There is no set length requirement, however its organization and overall composition must correspond to normative standards associated with undergraduate work.

An outline of the course schedule with dates, including topics, readings, guests, due dates, scheduled presentations and other relevant information. The weekly schedule of topics is as follows:

- August
- 1a Introduction
- 1b Architectural Theory Prior to 1950
- 1G Graduate Seminar Meeting
- 2a Architectural Theory Prior to 1950 Assignment #1 Due
- 2b Architectural Theory Prior to 1950
- 2G Graduate Seminar Meeting

September	3a 3b 3G 4a 4b 4G 5a 5b 5G	Labor Day 1950 - 1954 Graduate Seminar Meeting 1955 – 1959 1960 - 1964 Graduate Seminar Meeting 1965 - 1967 1968 Graduate Seminar Meeting	Assignment #2 Due
	6a	1968: Redux and Recap No Class	Assignment #3 Due
October	7a 7b 7G	No Class 1969 - 1974 1969 - 1974 Graduate Seminar Meeting	
	8a 8b	Fall Break Supermannerism	Assignment #4 Due
	8G 9a	Graduate Seminar Meeting 1975 - 1979	
	9b	1975 - 1979	
	9G	Graduate Seminar Meeting	
	10a 10b	1980 – 1984 1980 - 1984	Assignment #5 Due
	100 10G	Graduate Seminar Meeting	
	11a	1985 - 1989	
November	11b	1985 - 1989	
	11G	Graduate Seminar Meeting	
	12a	1990 - 1994	
	12b	1990 - 1994	
	12G	Graduate Seminar Meeting	
	13a 13b	1996 - 1999 1996 - 1999	
	13G	Graduate Seminar Meeting	
	14a	Architectural Theory and the New	Millennium
		Thanksgiving Break	
		Thanksgiving Break	
	15a	2001 – 2004	Lulu (or equivalent) Receipt Due
December	15b 15G	2001 - 2004 Graduate Seminar Meeting	
December	16a	2005 - 2010	
	16b	2005 - 2010	
	17	Book of Architectural Theory	Due by 5:00

EVALUATION

The distribution of course assignments will be as follows:

Assignment Description	Weight for Course (%)
Assignment No. 1	5%
Assignment No. 2	5%
Assignment No. 3	5%
Assignment No. 4	10%
Assignment No. 5	10%
Assignment No. 6	15%
My Little Book of Theory	<u>50%</u>
	100%

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Undergraduate Scale & Values

А	90-100	Excellent
В	80-89	Good
С	70-79	Fair
D	60-69	Passing
F	59 & Below	Failing

These grades are determined according to the following criteria:

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Undergrad D (Passing): Fails to meet most requirements of the course (the work is incomplete to a significant degree); exhibits little or no improvement, development, and/or intellectual growth over the semester; and/or work is of a caliber only marginally acceptable at the university level. For B Arch students, a grade of D or worse in studio requires repetition of the course before advancement. For BA in Architecture students, one grade of D is permissible, however, a grade of D in a subsequent studio requires repetition of the course before advancement. Courses may not be repeated more than once. Academic suspension occurs for BA students with their third studio grade of D or worse and for BArch students with their second grade of D or worse.

Undergrad F (Failing): Fails to meet the requirements of the course; and/or the work is incomplete or of a caliber unacceptable at the university level. A grade of F in a studio

requires repetition of the course before advancement. Academic suspension occurs for BA students with their studio third grade of D or worse and for BArch students with their second grade of D or worse.

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TEXTBOOKS AND RESOURCES

Required Texts: K. Michael Hays, *Architecture Theory Since 1968*, MIT Press (1998). A. Krista Sykes, *Constructing a New Agenda: Architectural Theory* 1993-2009, Princeton Architectural Press (2010).

Reserve Reading: Joan Ockman, *Architecture Culture 1943 – 1968: A Documentary Anthology*, Columbia Books of Architecture/Rizzoli (1993) Harry F. Mallgrave, *Modern Architectural Theory: A Historical Survey, 1673 – 1968*, Cambridge University Press (2005)

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: <u>http://www.religiousstudies.uncc.edu/research/writingguideformat.htm</u>.

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COURSE NUMBER

ARCH 4604 (new course, cross-listed with ARCH 5604)

COURSE TITLE

Computational Methods

CATALOG DESCRIPTION

ARCH 4604 Computational Methods. (3) Pre-requisite: ARCH 2102. This course introduces students to the fundamental concepts of computation through explorations with basic scripting and parametric tools. The goal is to understand the potential of computation and the role it can play as part of one's design process; not as a collection of specific tools, but as a way of thinking about design.

PRE- or CO-REQUISITES

Pre-requisite: ARCH 2102.

OBJECTIVES

- Acquire computational design skills; basic generative scripting, parametric design
- Acquire knowledge of fundamental computational concepts, their history, and how they relate to design and architecture
- Acquire knowledge of important figures, movements, and works within and related to computational design
- Acquire a critical understanding of the strengths and limitations of various kinds of computing
- Acquire strategies for computing efficiently and effectively

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, and A.8 Ordering System Skills.

INSTRUCTIONAL METHOD

This course is lecture-based with a weekly lab / recitation session. Lectures introduce topics and frame them within an architectural and historical context. Lab sessions demonstrate concepts and methods in an interactive setting and provide students with the opportunity to practice and troubleshoot their skills homework. Class "study" projects invite students to examine the analytic and expressive potential of computational methods. A final project asks students to critically reflect on the ideas of the course and how these relate to their developing understanding of design. The weekly topic outline shall be as follows:

- Week 1 Introduction to Computation / Code
- Week 2 Variables/ Math / Conditionals
- Week 3 Iteration / Recursion / Debugging
- Week 4 Functions/ Abstraction/ Algorithm/ Randomness
- Week 5 Data Types / Media Representation/ Data Viz (Study One due)
- Week 6 Simulation / Artificial Life
- Week 7 More Abstraction/ Objects
- Week 8 Spring Break
- Week 9 3D Review / Topology/ Curvature (*Study Two due*)
- Week 10 Basic Parametrics
- Week 11 Paneling and Series
- Week 12 Typology and Families
- Week 13 Performative Systems
- Week 14 Data Integration / Mapping (Study Three due)
- Week 15 Evolution and Optimization
- Week 16 Code Redux (Final due during exam week)

EVALUATION

Include the type and number of student products expected. Describe relative weight of each exercise.

Assignment Description	Weight for Course (%)
Daily Homework/ Practice	50%
Study One – Drawing Machine	10%
Study Two – Generative System	10%
Study Three – Parametric Family/ Assembly	10%
Final or Case Study Project	<u>20%</u>
	100%

POLICIES

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Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the University Undergraduate Catalog. For more information about these polices, please refer to the appropriate catalog, which can be found online at: <u>http://www.uncc.edu/gradmiss/gs_catalog.html</u>.

Grading of courses conform to the following grading scales and values:

Undergraduate Scale & Values

А	90-100	Excellent
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Undergrad D (Passing): Fails to meet most requirements of the course (the work is incomplete to a significant degree); exhibits little or no improvement, development, and/or intellectual growth over the semester: and/or work is of a caliber only marginally acceptable at the university level. For B Arch students, a grade of D or worse in studio requires repetition of the course before advancement. For BA in Architecture students. one grade of D is permissible, however, a grade of D in a subsequent studio requires repetition of the course before advancement. Courses may not be repeated more than once. Academic suspension occurs for BA students with their third studio grade of D or worse and for BArch students with their second grade of D or worse.

Undergrad F (Failing): Fails to meet the requirements of the course; and/or the work is incomplete or of a caliber unacceptable at the university level. A grade of F in a studio requires repetition of the course before advancement. Academic suspension occurs for BA students with their studio third grade of D or worse and for BArch students with their second grade of D or worse.

Disability: If you have a diagnosed disability which influences your ability to learn or have your work assessed in the classroom, all efforts will be made to meet your needs. Please provide a copy of your Letter of Accommodation from the UNC Charlotte Office of Disability Services by the end of the second week of classes. Their office is located in 230 Fretwell and more information is available online at: http://www.ds.uncc.edu/. All information about your disability and accommodations will remain confidential. Please see the instructor if you are interested in being an official scribe (note taker) for this course. Your notes will be made available to others in the class with special needs.

Late Work: Late work will not be accepted, and will not receive credit. A printed hard copy of each submittal is due at the beginning of the class period on the due date indicated in the class schedule. If you are unable to complete an assignment due to an excused absence, notify the professor on the due date and turn in the assignment at the next class meeting. Failure to turn in two assignments on their due dates is grounds for automatic failure of the course.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may request an excused absence. If the student notifies the instructor of the classes to be missed due to religious holy days by the end of the second week of classes, the student will be excused. (Eligible religions are those whose places of worship are exempt from property taxation.)

Diversity and Respectful Interaction: All perspectives and opinions are welcomed and will be respected in this classroom or studio, as long as they are presented in manner that is respectful. Intolerance will not be tolerated. Be mindful of your conduct when engaged in experiences and discourses with those who differ from you in appearance, race, ethnicity, beliefs, gender, sexuality, style, politics or intellectual position. If you feel personally uncomfortable or alienated, or that diversity in general is any way stifled in this class, please let the instructor know so that the situation can be remedied.

Be especially aware that studios are a public place, so be sensitive to images and other materials around your desk, including on your computer, which might be offensive to others. In addition, all students are required to abide by the sprit and the specifics of the UNC Charlotte Sexual Harassment Policy, which can be found online at: http://www.legal.uncc.edu/policies/ps-61.html.

Culture: Students and instructors alike share responsibility for the collective culture of all SoA courses, all participants are expected to enhance its intellectual life by being present, pro-active, and respectful. All courses actively comply with and promote the SoA and CoAA culture policies, with which it is assumed you are aware. The SoA culture policy is available online at: http://www.coaa.uncc.edu/Academics/School-of-architecture/About.

Electronics: At all time during class cell phones, computers and other devices should be switched off and put away, unless permission to use those devices has been explicitly given by the instructor. All students are required to abide by the UNC Charlotte policy on Responsible Use of University Computing and Electronic Communication Resources, which can be found online at:

<u>http://www.legal.uncc.edu/policies/ps-66.html</u>. Remember that harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.

TEXTBOOKS AND RESOURCES

The following texts and bibliographic materials are required in this course: <u>Processing: A Handbook for Visual Artists and Designers by B. Fry and C.Reas</u>

The SoA has identified Kate Turabian, et al. *A Manual for writers of Research Papers, Theses, and Dissertations,* 7th ed (Chicago: University of Chicago Press, 2007) as the standard guide for student research, writing, and citation style. SoA students are encouraged to purchase this guide as they will be expected to comply with it in all courses. An abbreviated discussion of Turabian's recommendations for formatting can be found at: <u>http://www.religiousstudies.uncc.edu/research/writingguideformat.htm</u>.

For assistance with research, students are encouraged to contact Architectural Research Librarian Shannon Paul at spaul@uncc.edu and ask questions via email or make an appointment to talk with her.

For assistance with writing, students are encouraged to contact the UNC Charlotte Writing Resource Center for free, individual consultations on all stages of the research paper and presentation process. You can reach them by email at <u>wrchelp@uncc.edu</u> or stop by their offices in Fretwell 220. Additional information about the WRC can be found online at <u>http://www.uncc.edu/writing/wrc.html</u>.

COURSE NUMBER

ARCH 4605 (new course, cross-listed with ARCH 5605)

COURSE TITLE

Computational Practice

CATALOG DESCRIPTION

ARCH 4605. Computational Practice (3). Pre-requisite: ARCH 4604 or Permission of Instructor. This course is the capstone for digital media and computational studies in the School of Architecture. The goal of this seminar course is to provide students with experience using advanced digital tools and methods, including digital fabrication, parametrics, Building Information Modeling/Management (BIM), scripting, and performance analysis, in preparation for professional practice and/or advanced graduate research. (*Spring*)

PRE- or CO-REQUISITES

Pre-requisite: ARCH 4604 or by Permission of Instructor.

OBJECTIVES

- To acquire skills in advanced digital and computational tools and methods (Revit, Grasshopper, Gehry Technologies)
- To develop problem-solving skills with these methods and investigate new applications for them in practice
- To explore the uses of digital fabrication to create unconventional form and reduce material waste
- To cultivate a critical mindset regarding the strengths and limitations of logical and procedural systems within the design process
- To create more informed designs through the integration of ecological data and performance criteria
- To maintain and refine the ideas of the Strategic Computing Framework

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.8 Ordering System Skills, and A.11 Applied Research.

INSTRUCTIONAL METHOD

This course is lecture-based with a weekly lab / recitation session. Students will be given lectures and live demonstrations, perform short-term design assignments, and make preliminary and formal project presentations. Weekly areas of instruction shall include:

Week 1: Week 2/3 Week 4/5	parametric models: application and use parametric models: building information modeling complex modeling: Gehry Technologies
Week 6	digital fabrication: laser and prototyping practices
Week 7	digital fabrication: CNC soft materials router
Week 8	digital fabrication: plasma cutting tools
Week 9/10	ecological modeling
Week 11/12	performance and simulation modeling systems
Week 13/14	strategic computing frameworks
Week 15/16	project application and research

EVALUATION

Assignment Description	Weight for Course (%)
Project No. 1: Parametric Systems	20%
Project No. 2: Materiality and Fabrication	20%

Project No. 3: Environmentally-Linked Systems	20%
Final Project: Independent Study (conference/competition)	<u>40%</u>
	100%

POLICIES

Academic Integrity: All written and graphic submittals, in-class presentations, and other academic tasks should be your individual and original work unless specifically noted as group projects. No cheating. No plagiarism. It is assumed that you are aware of and will comply with the spirit and specifics of the UNC Charlotte Code of Student Academic Integrity, which is available online at: <u>http://www.legal.uncc.edu/policies/ps-105.html</u>.

Attendance: In order to fully benefit from and participate in this course, attendance is required. Two (2) unexcused absences automatically lower your final grade one letter grade. More than two (2) unexcused absences will constitute grounds for automatic failure of this course. Documentation of excused absences must be submitted in writing and show evidence of the medical or family emergency. When possible, notify your instructor as early as possible in advance of a potential absence.

Grading Policy: All courses in the SoA are governed by the rules and regulations of UNC Charlotte as stated in the University Undergraduate Catalog. For more information about these polices, please refer to the appropriate catalog, which can be found online at: <u>http://www.uncc.edu/gradmiss/gs_catalog.html</u>.

Undergraduate Scale & Values

A	90-100	Excellent
В	80-89	Good
С	70-79	Fair
D	60-69	Passing
F	59 & Below	Failing

These grades are determined according to the following criteria:

Undergrad A (Excellent): Meets or exceeds stated requirements of the course; exhibits significant improvement, development, and/or intellectual growth over the course of the term; exhibits research efforts from which both the instructor and students may learn; all work turned in on time and presented in a professional manner.

Undergrad B (Good): Meets the stated requirements of the course; exhibits good improvement, development, and/or intellectual growth over the semester; provides a measure for student emulation; and all work is turned in on time and well presented.

Undergrad C (Fair): Meets most requirements of the course; exhibits limited improvement, development, and/or intellectual growth over the semester; and all work is turned in on time and neatly presented. An accumulation of 3 marginal C grades will result in suspension of a student's enrollment. For Bachelors of Architecture students, a grade of C is the minimum passing grade.

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TEXTBOOKS AND RESOURCES

The following texts and bibliographic materials are required in this course:

Seletsky, Paul Skidmore, *The Digital Design Ecosystem.* Toward a Pre-Rational Architecture Owings & Merrill LLP, Senior Manager of Digital Design – SOM New York.

Napier, Tom. "Construction Waste Management." *Whole Building Design Guide*. 15 June 2007. US Army Corps of Engineers 11 Apr. 2008 (http://www.wbdg.org/resources/cwmgmt.php)

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To: Peter Wong, Curriculum Committee Chair

From: Shannon Paul, Arts & Architecture Librarian

Date: 04/04/2011

Subject: ARCH 5203

Summary of Librarian's Evaluation of Holdings:

Evaluator: Shannon Paul

Date:04/04/11

Please Check One:

Holdings are superior Holdings are adequate

Holdings are adequate only if Dept. purchases additional items. _____ Holdings are inadequate

Comments: 52 titles are found under the following subject headings: Architecture – Historiography, Modern movement (Architecture), Architecture, modern – 21st century – Philosophy, Architecture, modern – 20th century – Philosophy, Architecture, modern – Historiography, Architecture, modern – Philosophy, and Architectural criticism – History – 20th century. An additional 68 titles are found under the peripheral subject headings: Architecture, modern – 20th century – History, Architecture, modern – History, Architecture, modern – 20th century, Brutalism, architecture, Architecture, postmodern, and Architectural criticism. 165 titles are found under the overarching subject heading of Architecture – Philosophy.

Useful databases include: Avery Index to Architectural Periodicals, JSTOR, Project Muse

Evaluator's Signature

04/04/2011



To: Peter Wong, Curriculum Committee Chair

From: Shannon Paul, Art & Architecture Librarian

Date: 04/04/2011

Subject: ARCH 5604

Summary of Librarian's Evaluation of Holdings:

Evaluator: Shannon Paul

Date: 04/04/2011

Please Check One:

Holdings are superior Holdings are adequate Holdings are adequate only if Dept. purchases additional items. _____ Holdings are inadequate

Comments: 59 titles found under the subject headings: Architectural design – Computer simulation, Architectural design – Data processing, Architectural design – Mathematics, Architectural design – Mathematical models, and Architecture – Computer aided design. An additional 93 titles are found under Architecture and technology, Architecture – Technological innovations, Art and technology. 131 titles are found under Computer graphics [2000-2011], Art – Data processing, Digital art – Computer programs, and Processing (Computer program language).

Useful databases include: SpringerLink, Computer and Information Science Abstracts, ScienceDirect, and Avery Index to Architectural Periodicals

Evaluator's Signature

04/04/2011



To: Peter Wong, Curriculum Committee Chair

From: Shannon Paul, Art & Architecture Librarian

Date: 04/05/2011

Subject: ARCH5605

Summary of Librarian's Evaluation of Holdings:

Evaluator: Shannon Paul

Date: 04/05/2011

Please Check One:

Holdings are superior Holdings are adequate

Holdings are adequate only if Dept. purchases additional items. _____ Holdings are inadequate

Comments: All titles cited in this review fall between 2000-2011. 68 titles under the subject headings: Architectural design – Data processing, Architectural drawing – Computer aided design, Architecture – Data processing, and Computer-aided design. An additional 66 titles are found under the broader subjects of Architecture – Technological innovations, Architecture and technology, and Art and technology. Building information modeling has 3 titles.

Books 24/7 (available to students via student computing) has additional titles on scripting, computational practice, and processing languages.

Useful databases include: Springer Link, Computer and Information Science Abstracts, ScienceDirect

Evaluator's Signature

04/05/2011



To: Peter Wong, Curriculum Committee Chair

From: Shannon Paul, Art & Architecture Librarian

Date: 04/04/2011

Subject: ARCH 6306/6307

Summary of Librarian's Evaluation of Holdings:

Evaluator: Shannon Paul

Date: 04/06/2011

Please Check One:

Holdings are superior Holdings are adequate

Holdings are adequate only if Dept. purchases additional items. _____ Holdings are inadequate

Comments: Volume holdings for the following Library of Congress call number ranges are: NA4100-4160 - Buildings by material, Buildings by form (68); TA401-492 – Materials of engineering and construction (1,025); TH1-9745 – Building construction (2,888).

Useful databases include: Avery Index to Architectural Periodicals, SpringerLink (Architecture and Design Collection), ScienceDirect, Compendex

Evaluator's Signature

04/06/2011



Peter Wong, Curriculum Committee Chair To:

Shannon Paul, Art & Architecture Librarian From:

04/04/2011 Date:

Subject: **ARCH 6602**

Summary of Librarian's Evaluation of Holdings:

Evaluator: Shannon Paul

Date: 04/04/2011

Please Check One:

Holdings are superior Holdings are adequate

Holdings are adequate only if Dept. purchases additional items. Holdings are inadequate

Comments: 163 titles are found in the subject headings: Architectural drawing – Technique, Architectural rendering, Architecture - Designs and plans, Architecture - Composition, Proportion, etc., and Architectural models. 71 titles are found under the peripheral subject headings of Architectural drawing - Computer aided design, Architectural design - Data processing, and Visual perception (2000-2011 only). 72 titles are found under the overarching subject heading of Architectural drawing.

Useful databases include: Avery Index to Architectural Periodicals

Evaluator's Signature

04/04/2011



To: Peter Wong, Curriculum Committee Chair

From: Shannon Paul, Art & Architecture Librarian

Date: 04/04/2011

Subject: ARCH 6603

Summary of Librarian's Evaluation of Holdings:

Evaluator: Shannon Paul

Date: 04/04/2011

Please Check One:

Holdings are superior Holdings are adequate

Holdings are adequate only if Dept. purchases additional items. _____ Holdings are inadequate

Comments: 62 titles are found under the subject headings: Architectural drawing – Computer aided design, Architectura – Computer aided design, Architectural design – Computer simulation, Architectural design – Computer programs, Architectural design – Data processing, and Architectural models – Computer simulation. An additional 68 titles are found in the related subject headings: Architectural design – Mathematics, Architectural design – Mathematical models, Architecture and technology, and Architecture – Technological innovations. 23 titles are found under Autocad.

Useful databases include: Avery Index to Architectural Periodicals, SpringerLink (Architecture and Design Collection), ScienceDirect, Computer and Information Systems Abstracts

Evaluator's Signature

04/04/2011

MEMORANDUM

ТО:	Prof. Peter Wong Program Coordinator, Master of Architecture Program
FROM:	Prof. David Walters Program Director, Master of Urban Design Program
RE:	Changes to the Master of Architecture Curriculum
DATE:	April 2 nd , 2011

Peter,

I have reviewed carefully the long form and short form proposals for the changes to the Master of Architecture curriculum and would state my clear support for these changes that have evolved through extensive curriculum committee and faculty discussions. These proposals will engender some minor changes to the curriculum of the approved dual MARCH/MUDD degree, but these will offer enhanced depth to the architecture side of the dual degree program without compromising the urban design curriculum in any way. My urban design faculty colleagues and I especially endorse the changes to ARCH 5101 (previously ARCH 5050), cross-listed as MUDD 5050. This will provide an enhanced design-intensive experience for incoming MUDD students from non-design backgrounds during the summer session prior to fall enrollment.

I look forward to collaborating with you on submitting the paperwork required for these minor changes to the dual degree to the Graduate School in the very near future.

David