

**University of Utah**

**Interim Progress Report for Year Two**

**Instructions and Template**

November 30, 2018

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# 1. INSTRUCTIONS AND TEMPLATE GUIDELINES

## Purpose

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

This narrative report, supported by documentation, covers three areas:

1. The program's progress in addressing not-met Conditions or Student Performance Criteria from the most recent Visiting Team Report.
2. Significant changes to the program or the institution since the last visit.
3. Responses to changes in the NAAB Conditions since your last visit (Note: Only required if Conditions have changed since your last visit)

## Supporting Documentation

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

## Outcomes

IPRs are reviewed by a panel of three: one current NAAB director, one former NAAB director, and one experienced team chair.<sup>1</sup> The panel may make one of three recommendations to the Board regarding the interim report:

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

## Deadline and Contacts

IPRs are due on November 30. They are submitted through the NAAB's Annual Report System (ARS). Contact Ellen Cathey ([ecathey@naab.org](mailto:ecathey@naab.org)) or David Golden ([dgolden@naab.org](mailto:dgolden@naab.org)) with questions.

## Instructions

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

<sup>1</sup> The team chair will not have participated in a team during the year in which the original decision on a term of accreditation was made.

## 2. EXECUTIVE SUMMARY OF 2016 NAAB VISIT

### CONDITIONS NOT MET

<b>2016 VTR</b>
None

### STUDENT PERFORMANCE CRITERIA NOT MET

<b>2016 VTR</b>
D.5 Professional Ethics

### 3. TEMPLATE

**Interim Progress Report**  
**University of Utah**  
**College of Architecture and Planning, School of Architecture**  
**Master of Architecture**  
**Track I** (122 undergraduate credit hours + 59 graduate credit hours)  
**Track II** (undergraduate degree + 101 graduate credit hours)  
*Year of the previous visit: 2016*

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

**Chief administrator for the academic unit in which the program is located:**

Keith Diaz Moore, PhD, AIA  
Dean, College of Architecture + Planning  
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**Provost:**

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Senior Vice President for Academic Affairs  
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**Name of individual(s) to whom questions should be directed:**

Mira Locher, FAIA, LEED AP  
Chair, School of Architecture

**Current term of accreditation:**

8 years (next visit in 2024)

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

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

### D.5 Professional Ethics

**2016 Team Assessment:** While there was no evidence of this understanding within documented student work, the team found substantial evidence of it in the syllabus, PowerPoint presentation, and handouts prepared for ARCH 6701, Architectural Professional Practice II. The handouts included AIA's Code of Ethics, the NCARB Monograph on Ethics, and, most importantly, a class discussion guide that focused on ethics. From the syllabus, the team learned that, as part of the requirements of the course, students attended a forum on ethics at AIA Utah offices on February 3, 2015, which featured many speakers. However, despite significant effort, the school was unable to produce evidence of this understanding in student performance—papers, essays, exams, quizzes, or projects—with appropriately documented evaluations by instructors.

**University of Utah, 2018 Response:** In response to the not-met condition of Professional Ethics and as a part of our new curriculum development (see response to question 2 changes or planned changes in the program), we have restructured the professional practice course. Regarding this particular criteria, we have maintained the readings and in-class discussions of professional ethics and added a section of critical thinking about the relationship between professional ethics and ethics more broadly understood. Additional readings include Jeremy Till's discussion on professional ethics in *Architecture Depends*, Chapter 10 "Imperfect Ethics" (MIT Press, 2009). Students then complete a case study assignment in which they perform a critical analysis on both the professional ethics as defined by AIA's Code of Ethics and the NCARB Monograph on Ethics, as well as the ethics of the case more broadly as suggested by Till's critique of the discipline's conception of professional ethics. This allows students to apply their understanding of Professional Ethics in the completion of a critical analysis. (See appendix A for (Professional) Ethics Case Study Assignment.)

## 2. Changes or Planned Changes in the Program

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

**University of Utah, 2018 Response:** The primary change that we have made since our full 8-year accreditation term was granted in 2016 is a complete curriculum re-imagination facilitated by the Center for Teaching and Learning Excellence (CTLE). This re-imagination took place as a part of a College-wide reevaluation of our mission and values. One of the primary goals in entering this process was to develop a curriculum that reflects the values of the School and the College of Architecture + Planning. The values of the College are defined as the "4 Rs" – "Respect, Response, Responsibility, and Resilience." For the School, we developed a list of values based on our curricular discussions and organized them into overlapping categories of disciplinary values, pedagogical values, and ethical values, as follows:

Disciplinary Values	Pedagogical Values	Ethical Values
• Environmental Resilience	• Community Engagement	• Global Citizenship

- Leadership/Collaboration
- Design Excellence
- Community Engagement
- Critical Creative Thinking
- Risk-Taking/Exploration
- Global Citizenship
- Social Equity
- Agency/Activism
- Environmental Resilience

This re-imagination process has resulted in innovative new teaching and learning methods for both our undergraduate and graduate curricula. Led by Pam Hardin of CTLE, Associate Chair Lisa Henry Benham, and Chair Mimi Locher, the full faculty of the School of Architecture have met monthly since fall 2016 to determine the degree of curriculum change we want, establish our values as a School of Architecture, and develop an ethical framework for the curricula. The faculty determined that the best course of action was a complete curriculum re-imagination, one that would build on the integrated courses we developed prior to our 2016 NAAB accreditation.

The process began in spring 2015 with a series of surveys of faculty, students, and our professional community. The goal of these surveys was to determine what kind of graduates we wanted to produce, and how our graduates could serve both the discipline of architecture and the communities in which we work. The result of this work was a set of values and a set of skills/knowledges that every student should understand in order to graduate. This included the ability to think and act critically, to research and develop design processes independently, and to write and communicate effectively to different audiences all with a broad foundation of knowledge of the history and theory of architecture and of the social and cultural movements that gave life to architecture design and theory. In addition to the integration of our values into the curriculum, the goals of the new curriculum include:

- Train students to be critical thinkers and leaders in the field.
- Focus on the processes of design, research, and thinking: creative thinking, critical thinking, problem solving, exploration and risk-taking.
- Build toward integration over the course of the curriculum, providing appropriate integration at different stages in student development and opportunities for students and faculty to make meaningful connections between different areas of instruction: design, history/theory/criticism, technology, communications, professional practice.
- Develop transparency throughout the curriculum: clear and transparent understanding of how area objectives (core knowledge and skills) build from one semester to the next as well as how courses within a particular semester relate to each other either through integration or sequencing.
- Break up the dominance of the studio in the curriculum and subsequent marginalization of other courses.
- Emphasize liberal arts based education at undergraduate level and more specialized focus on architecture in graduate program.
- Move NAAB Student Performance Criteria out of undergraduate program to graduate program where possible.

After determining what type of graduate we wanted to produce, we began a process of developing both course and degree objectives, which we then mapped across the four years of the undergraduate program and the two-to-three years of our graduate program. The process began with faculty in each subject area working together to develop a comprehensive list of objectives appropriate to that subject at each level of the curriculum. Then we began to map these objectives without regard for courses or areas in order to break down the divisions of the different areas of study. This process allowed us to rethink the curriculum in broad terms with a clear focus on the goals of producing architects who could engage the critical issues of the discipline in effective ways.

Once we mapped objectives very broadly, we began to organize them in logical groups to allow us to develop new and innovative courses. In both small teams and as a



full faculty, we mapped our objectives at more and more detailed levels, from curriculum-wide mapping to mapping into particular course integrations and project descriptions.

We agreed, as a full faculty, to develop and teach courses in a collaborative manner and where possible to integrate coursework within our varied topics areas (building technology, communication, design studio, history/theory/criticism, and professional practice). The new M.Arch program is designed to create opportunities for students and faculty to make meaningful connections between the different areas of instruction – design, history/theory/criticism, building technology, communications, and professional practice. The curriculum is composed of four distinct experiences in the two years of study: research and design methods integration, professional integration, an immersive experience, and a final self-authored studio, which provides students with the opportunity to take control of their education and choose an area of expertise to develop. Within each experience, distinct areas of study are integrated to develop the skills, knowledges, and critical creative thinking necessary for the ethical practice of architecture (as outlined below).

G1 Fall: Design Methods Integration - The M.Arch sequence begins with an integrated experience between studio, communications, and history/theory/criticism (HTC) research methods that provides a foundation for the design process. In the first half of the semester, HTC feeds the studio process as primer for design, with communications defining a controlled path for tool sequence through the design process, including critical evaluation of the process.

G1 Spring: Professional Integration - This semester is focused on integrating the conceptual design and professional design development processes that allow for architects' consultation with allied trades including engineers, code consultants, contractors, etc. Studio and a building systems application course are given equal weight and coordinated throughout the semester.

G2 Summer/Fall: Immersive Experience - A hallmark of our M.Arch program, the immersive experience is designed to fully engage students in a particular aspect of architectural practice. For example, DesignBuildBLUFF ([www.designbuildbluff.org](http://www.designbuildbluff.org)), located in Utah's Four Corners region, provides students the opportunity to design and build a full-scale project in partnership with the Navajo Nation. Design Build Salt Lake focuses on the design and construction of highly energy efficient affordable houses for underserved communities in Salt Lake, and the Urban Design Immersive Experience is a community engaged design studio/theory pairing that tackles pressing local civic issues at the urban scale.

G2 Spring: Final Self-Authored Studio - Following the integrated curriculum in the previous semesters, students are mentored through a self-authored project in which they must show the ability to integrate the many different aspects of architecture to develop and research a self-authored studio project. Students are guided through this process via a final HTC methods course that focuses on research and preparation for the final project, which is accompanied by a University elective course that focuses on the topic of the student's individual final project.

See Appendix B for curriculum course maps (with attendant SPCs noted).

The curriculum process continues this year with the development and roll-out of the new integrated courses and methods of assessment. Attendant to this roll-out is the continued mapping of learning objectives; our disciplinary, pedagogical, and ethical values; and student performance criteria required by our NAAB accreditation into courses, as well as the clear articulation of program learning objectives and the development of methods for outcomes assessment specific to the new curriculum. The Chair and Associate Chair continue to lead monthly teaching training workshops and curriculum discussion for faculty. The workshops are designed to create opportunity for

faculty (including adjuncts) to work together to flesh out the details of the new curriculum and to learn important teaching principles, such as designing transparent assignments, developing learning objectives, and creating grading rubrics.

The new curriculum does have a slight impact on our financial resources. The integrated teaching model (with two or more instructors collaboratively teaching) may not be quite as cost-efficient as the conventional teaching model (one instructor per course). However, we feel strongly that this is the best model for contemporary architectural education and well worth any additional cost. We are working to make sure the cost to the students is kept at a minimum, especially for the immersive experiences in our graduate program (DesignBuildBLUFF, Design Build Salt Lake, Urban Design, etc.). We continue to look for outside funding to grow these unique experiences and to build in research opportunities for students and faculty.

Additional changes that support our new curriculum include new opportunities for collaboration with AIA Utah and changes in our physical resources. We have an exciting new collaboration with AIA Utah – the AIA is renovating space in a historic building in downtown Salt Lake City, and the CA+P will have a studio within the AIA office suite. This innovative collaboration is the first of its kind in the U.S. and will provide students with a state-of-the-art studio space in a professional working environment. Completion of the construction and grand opening of the AIA/CA+P space is planned for early December 2018. Students using this studio will have the opportunity to collaborate more closely than ever with our professional community. Studios taught here will be taught by, or in collaboration with, a local firm and will focus on either the Professional Integration semester or the Immersive Experience semester.

In keeping with the new modes of collaborative teaching and learning, Room 128 (formerly a computer lab) has been transformed into a multi-media teaching and learning space with three digital projectors, document cameras, a magnetic white board wall, five large format monitors, and tables and chairs on casters. This room now is a popular teaching and meeting space. A major transformation also currently is taking place in the central space on the lower level of the architecture building. Brio, our resident café, moved into the north end of the lower level, and in spring 2018 the CA+P opened a new fabrication lab (Fab Lab) in the southeast end, featuring a large format CNC mill. A Student Success Center is being constructed in the southwest corner, with offices and meeting spaces for our advising team, and a new wall will separate the café from the central teaching area. This new advising area will be a critical help to guiding students through the many opportunities offered by our new curriculum. Construction on the Student Success Center and new demising wall began in late November 2018.

Additional changes in physical resources include several significant upgrades to the architecture building that have been completed since 2016. The central exhibit and review space, the Bailey Gallery, has been acoustically retrofit, allowing for greater and more comfortable use of this important space. This retrofit followed a necessary upgrade of the fire sprinkler system, which also allowed for the replacement of some old lights with new energy-efficient fixtures. In addition, the public restrooms in the building have received a much needed renovation. Finally, as stated above, the CA+P will have a studio space in the newly renovated AIA office suite.

Changes unrelated to our new curriculum include faculty and administrative changes, as well as a shift in CIP codes. We recently changed our CIP code from 04.0201 to the STEM code of 04.0902. This designation is especially important for our international students, who now will qualify for two additional years of OPT after graduation. On the faculty and administration side, the Chair of the School of Architecture will be stepping down at the end of the 2018-19 academic year, and we currently are conducting a search for a new Chair. In addition, Associate Professor Ryan

Smith left the School of Architecture in the summer of 2018 to take a leadership position at another institution, and Professor and former Chair Prescott Muir will retire at the end of the 2018-19 academic year. We will conduct searches for two positions in the 2019-20 academic year guided by our new Chair. Finally, at the University level, Ruth Watkins, PhD, the Senior Vice President for Academic Affairs (provost) at the time of our accreditation visit in 2016, has been appointed the President of the University. Our new Senior Vice President for Academic Affairs is Dan Reed, PhD. (See Appendix C for his abbreviated CV.)

We also expect to see an increase in our student enrollment in the near future. In the three years since our last accreditation visit, we have had an increase in the number of students who applied to and enrolled in the 3+ M.Arch program—from 11 applicants and 4 enrolled for 2016-17, 11 applicants and 9 enrolled for 2017-18, to 20 applicants and 11 enrolled students for 2018-19 admission. For the two-year M.Arch, applicants and enrollment have decreased slightly. For 2016-17 admission, we had 33 applicants and 21 enrolled students, for 2017-18 we had 29 applicants and 24 enrolled students, and for 2018-19 we had 27 applicants and 12 enrolled. However, we have had dramatic increases in the number of students in our Design Foundations program for first-year undergraduates in both the first year of the program (2017-18) and the current year, so we expect to see a significant increase in undergraduate applicants starting in spring 2019 and graduate applications starting in the spring of 2021. Additionally, we currently are working with a graduate admissions consultant and expect an increase of 20% in graduate applicants for 2019-20 and again in 2020-21.

### **3. Summary of Activities in Response to Changes in the NAAB Conditions** [2014 NAAB Conditions](#)

**University of Utah, 2018 update:** Not Applicable

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

**University of Utah, 2018 update:** Please see the attached appendices: Appendix A – Ethics Assignment, Appendix B – Curriculum Maps, and Appendix C – Provost CV

## APPENDIX A

# APPLIED ARCHITECTURAL PRACTICE

ARCH 6700 SERIES Fall 2017 & Spring 2018

SCHOOL OF ARCHITECTURE \_ UNIVERSITY OF UTAH

Professor : STEPHEN TOBLER

### Assignment #2 : (Professional) Ethics Case Study

The successful architect and architectural practice must have an understanding of the ethics and professional conduct of architects not just relative to the overall profession but extending beyond the discipline's core issues of design and project management to that of involvement and leadership with both local and global communities.

Objectives:

- To show an understanding of contemporary forces impacting the ethical practice of architecture.
- To engage in the discussion of strategies for maintaining an ethical architectural practice.
- NAAB Student Performance Criteria:  
D.5 Professional Conduct: *Understanding* of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of the NCARB Rules of Conduct and the AIA Code of Ethics in defining professional conduct.

In teams of two, choose one of the case studies posted on Canvas. Perform a critical analysis of the both professional ethics and ethics more broadly in relation to the case study. Your analysis should be based on the readings, class discussion, and the forum on ethics at AIA Utah. To explore your ideas, you should rely on liberal use of carefully chosen and explicated details from readings, discussions, and the case study materials. Your critical analysis should be composed of both text and diagrams. You should base your analysis on the material provided in the case study, no additional research is required. Your case study must include a minimum of text (750 – 1000 words) and images/diagrams.

Process:

First, identify both general obligations imposed by codes of ethical conduct and additional obligations specific to the project type for example obligations to the public, social justice obligations, environmental obligations etc. Second, develop a rubric for the evaluation of your case study based on the obligations you have identified. Finally, develop your critical analysis. Some questions to consider include:

- How do the ethical dimensions of the project relate to other dimensions of architecture, such as the aesthetic, process of production, material choice, labor, etc.?
- Does the architect take a clear ethical position in the development of this project? How is this manifest in the architecture?
- Does the architect meet or exceed the requirements of professional ethics in their engagement with client? Contractor? Community?
- What specific strategies did the architect use to solve the ethical issues related to the project? Are there strategies that you think might be more effective?

# Appendix B: Curriculum Maps

Revised: 09/05/18

PRE-ARCHITECTURE REQUIREMENTS: U1+U2

U1

U2

FALL

MAJOR 1

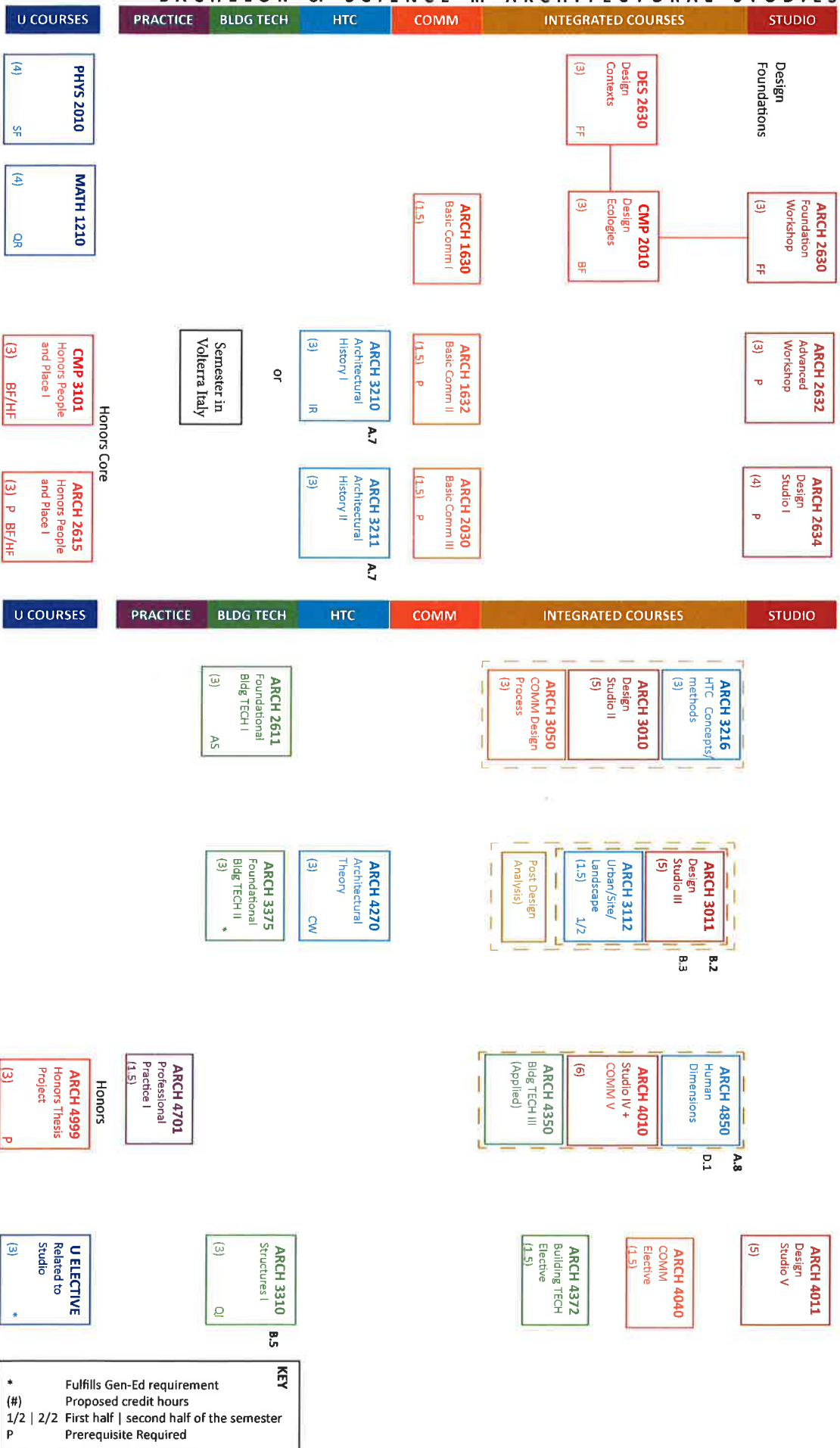
SPRING

FALL

MAJOR 2/3+

SPRING

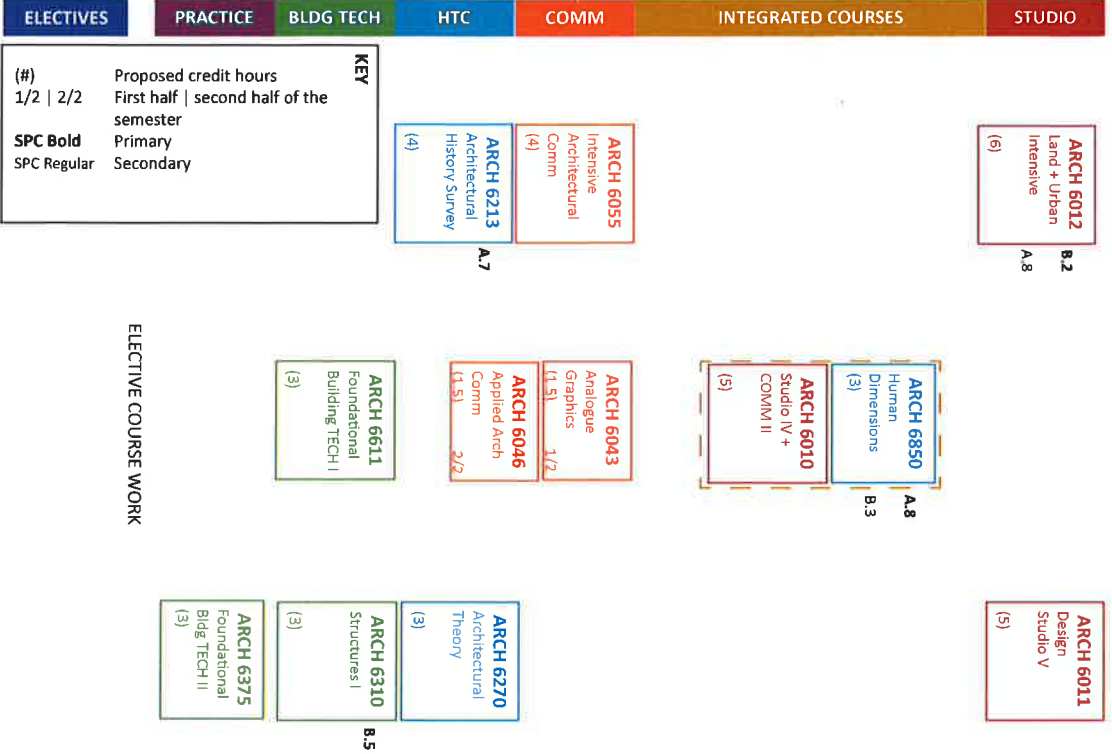
## BACHELOR of SCIENCE in ARCHITECTURAL STUDIES



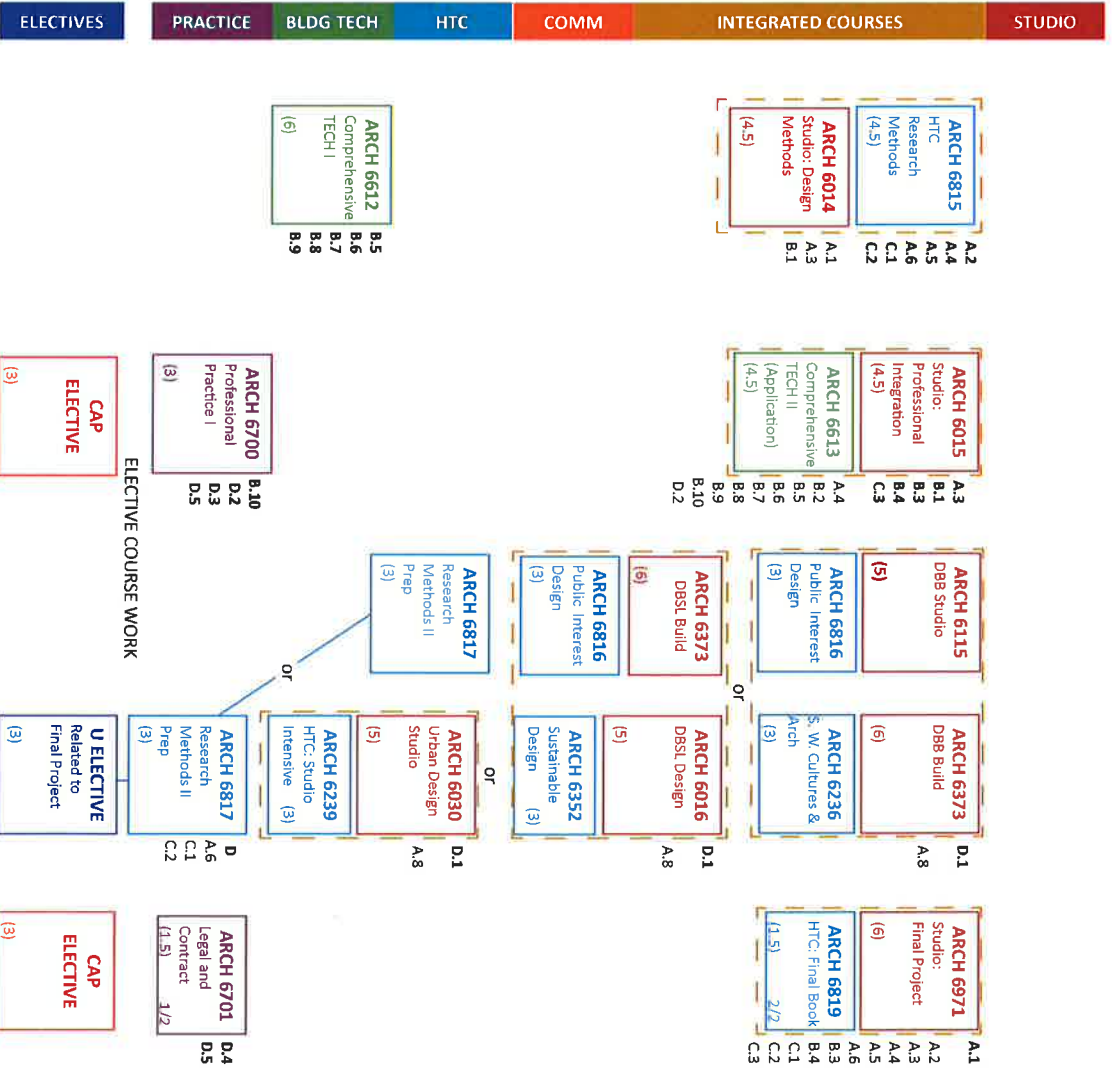
**KEY**

- \* Fulfills Gen-Ed requirement
- (#) Proposed credit hours
- 1/2 | 2/2 First half | second half of the semester
- P Prerequisite Required

MASTER of ARCHITECTURE -- 3+ PROGRAM



MASTER of ARCHITECTURE -- 2 YEAR PROGRAM



- SFCs for specific courses Revised: 09/05/18
- Note: **Bold text: primary satisfaction of SFC in required course (one course only)**  
Light text: secondary satisfaction of SFC in required course (one or two courses only)
- A.1 Professional Communication Skills: Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.
- **ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book**
  - ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods
- A.2 Design Thinking Skills: Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.
- **ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods**
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- A.3 Investigative Skills: Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
- **ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)**
  - ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- A.4 Architectural Design Skills: Ability to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.
- **ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods**
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- A.5 Fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.
- **ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods**
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- A.6 Use of Precedents: Ability to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.
- **ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods**
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- A.7 History and Global Culture: Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors.
- **ARCH 6213 Architectural History Survey**
  - ARCH 3210 Architectural History I + ARCH 3211 Architectural History II
- A.8 Cultural Diversity and Social Equity: Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.
- **ARCH 6850 Human Dimensions + ARCH 6010 Studio IV**
  - ARCH 4850 Human Dimensions + ARCH 4010 Studio IV
  - **Studio IV**
  - ARCH 6115 DBB Studio + ARCH 6373 DBB Build + ARCH 6816 Public Interest Design
  - ARCH 6373 DBSL Build + ARCH 6015 DBSL Design + ARCH 6816 Public Interest Design
  - ARCH 6030 Urban Design Studio + ARCH 6239 HTC: Studio Intensive
- B.1 Pre-Design: Ability to prepare a comprehensive program for an architectural project, that includes an assessment of client and user needs, an inventory of spaces and their requirements, an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
- **ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)**
  - ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods
- B.2 Site Design: Ability to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.
- **ARCH 3011 Design Studio III + ARCH 3112 Urban/Site/Landscape**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- B.3 Codes and Regulations: Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards.
- **ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)**
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- B.4 Technical Documentation: Ability to make technically clear drawings; prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.
- **ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)**
  - ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- B.5 Structural Systems: Ability to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.
- **ARCH 6612 Comprehensive TECH I**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH III (Application)
- B.6 Environmental Systems: Ability to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.
- **ARCH 6612 Comprehensive TECH I**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- B.7 Building Envelope Systems and Assemblies: Understanding of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.
- **ARCH 6612 Comprehensive TECH I**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- B.8 Building Materials and Assemblies: Understanding of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.
- **ARCH 6612 Comprehensive TECH I**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- B.9 Building Service Systems: Understanding of the basic principles and appropriate application and performance of building service systems including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems.
- **ARCH 6612 Comprehensive TECH I**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- B.10 Financial Considerations: Understanding of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs.
- **ARCH 6700 Professional Practice I**
  - ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)

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

- ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods
- ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- ARCH 6817 Research Methods II: Prep

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

- ARCH 6815 HTC: Research Methods + ARCH 6014 Studio: Design Methods
- ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book
- ARCH 6817 Research Methods II: Prep

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

- ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH II (Application)
- ARCH 6971 Studio: Final Project + ARCH 6819 HTC: Final Book

D.1 Stakeholder Roles in Architecture: Understanding of the relationships among key stakeholders in the design process – client, contractor, architect, user groups, local community – and the architect's role to reconcile stakeholder needs.

- ARCH 6115 DBB Studio + ARCH 6373 DBB Build + ARCH 6816 Public Interest Design
- ARCH 6373 DBSL Build + ARCH 6016 DBSL Design + ARCH 6816 Public Interest Design
- ARCH 6030 Urban Design Studio + ARCH 6239 HTC: Studio Intensive
- ARCH 6850 Human Dimensions + ARCH 6010 Studio IV
- ARCH 4850 Human Dimensions + ARCH 4010 Studio IV

D.2 Project Management: Understanding of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods.

- ARCH 6700 Professional Practice I
- ARCH 6015 Studio: Professional Integration + ARCH 6613 Comprehensive TECH III (Application)

D.3 Business Practices: Understanding of the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship.

- ARCH 6700 Professional Practice I

D.4 Legal Responsibilities: Understanding of the architect's responsibility to the public and the client as determined by regulations and legal considerations involving the practice of architecture and professional service contracts.

- ARCH 6701 Legal and Contract

D.5 Professional Conduct: Understanding of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of the NCARB Rules of Conduct and the AIA Code of Ethics in defining professional conduct.

- ARCH 6700 Professional Practice I
- ARCH 6701 Legal and Contract



## APPENDIX C

### DANIEL A. REED

#### Courses Taught:

Last taught fall 2013 at University of Iowa (Computer Science)

#### Educational Credentials:

1983: Ph.D. in Computer Science, Purdue University

1980: M.S. in Computer Science, Purdue University

1978: B.S. *summa cum laude* in Computer Science, Missouri University of S&T

#### Teaching Experience:

2012-2018: University Computation Science and Bioinformatics Chair, University of Iowa

2004-2007: Chancellor's Eminent Professor, University of North Carolina at Chapel Hill

1991-2003: Professor, University of Illinois at Urbana-Champaign

1988-1991: Associate Professor, University of Illinois at Urbana-Champaign

1984-1988: Assistant Professor, University of Illinois at Urbana-Champaign

1983-1984: Assistant Professor, University of North Carolina at Chapel Hill

#### Professional Experience:

2018-present: Senior Vice President for Academic Affairs, University of Utah

2012-2017: Vice President for Research and Economic Development, University Computation Science and Bioinformatics Chair, and Professor of Computer Science, University of Iowa

2009-2012: Corporate Vice President, Microsoft

2007-2009: Director of Scalable and Multicore Computing, Microsoft

2004-2007: Director of Renaissance Computing Institute and Vice-Chancellor for Information Technology, University of North Carolina

#### Selected Publications and Recent Research:

Scalable Input/Output: Achieving System Balance, MIT Press, D. A. Reed (ed.), Cambridge, MA, 2003

Debugging and Performance Tuning for Parallel Computing Systems, IEEE Computer Society Press, M. L. Simmons, A. H. Hayes, D. A. Reed, and J. Brown (eds.), Los Alamitos, CA, 1996.

Sixth SIAM Conference on Parallel Processing for Scientific Computing, Richard F. Sincovec, D. E. Keyes, M. R. Leuze, L. R. Petzold, and D. A. Reed (eds.), SIAM, Philadelphia, PA, 1993.

D. A. Reed and R. M. Fujimoto, Multicomputer Networks: Message-Based Parallel Processing, MIT Press, November 1987, 380 pages.

#### Professional Memberships:

Member, Association for Computing Machinery (ACM), 1978-present, Fellow, 2003-present

Member, IEEE, 1980-present, Fellow, 2004-present

Member, AAAS, 1986-present, Fellow, 2007-present

International Federation for Information Processing, Working Group WG10.3, 1993-present