

**Carnegie Mellon University**

School of Architecture  
**Doctor of Philosophy  
Student Handbook**

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*While this handbook is specific to your academic experience in the School of Architecture, there are several other resources and offices graduate students are encouraged to consult during their tenure at Carnegie Mellon University. Information about The Word, the student handbook, the Office of the Assistant Vice Provost for Graduate Education, the Office of the Dean of Student Affairs and others can be found at <http://www.cmu.edu/graduate/>.*

*This handbook replaces all previous versions. The rules and guidelines set forth in this handbook apply to all doctoral students in the School of Architecture, however, for each individual student specific curricular requirements that were in effect at the time of matriculation apply. In accordance with university policy, students who began their doctoral studies prior to the date of this revision of the handbook may follow time-to-degree requirements from the previous policy (<http://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html>).*

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# 1

## UNIVERSITY POLICIES & EXPECTATIONS

It is the responsibility of each member of the Carnegie Mellon community to be familiar with university policies and guidelines. In addition to this departmental graduate student handbook, the following resources are available to assist you in understanding community expectations:

- The Word/Student Handbook:  
<http://www.cmu.edu/student-affairs/theword/>
- Academic Integrity Website:  
<http://www.cmu.edu/academic-integrity/>
- University Policies Website:  
<http://www.cmu.edu/policies/>
- Graduate Education Policies Website:  
<http://www.cmu.edu/graduate/policies/>
- Doctoral Student Status Policy:  
<http://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html>
- Graduate Student Registration Website:  
<https://www.cmu.edu/hub/registration/graduates/>

### STATEMENT OF ASSURANCE

Carnegie Mellon University does not discriminate in admission, employment, or administration of its programs or activities on the basis of race, color, national origin, sex, handicap or disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Furthermore, Carnegie Mellon University does not discriminate and is required not to discriminate in violation of federal, state, or local laws or executive orders.

Inquiries concerning the application of and compliance with this statement should be directed to the vice president for campus affairs, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-2056. General information about Carnegie Mellon University can be obtained by calling 412-268-2000.

The Statement of Assurance can also be found on-line at:

<http://www.cmu.edu/policies/administrative-and-governance/statement-of-assurance.html>.

# 2

## THE CARNEGIE MELLON CODE

Students at Carnegie Mellon, because they are members of an academic community dedicated to the achievement of excellence, are expected to meet the highest standards of personal, ethical and moral conduct possible.

These standards require personal integrity, a commitment to honesty without compromise as well as truth without equivocation and a willingness to place the good of the community above the good of the self. Obligations once undertaken must be met commitments kept.

As members of the Carnegie Mellon community, individuals are expected to uphold the standards of the community in addition to holding others accountable for said standards.

It is rare that the life of a student in an academic community can be so private that it will not affect the community as a whole or that the above standards do not apply.

The discovery, advancement and communication of knowledge are not possible without a commitment to these standards. Creativity cannot exist without acknowledgment of the creativity of others. New knowledge cannot be developed without credit for prior knowledge. Without the ability to trust that these principles will be observed, an academic community cannot exist.

The commitment of its faculty, staff and students to these standards contributes to the high respect in which the Carnegie Mellon degree is held. Students must not destroy that respect by their failure to meet these standards. Students who cannot meet them should voluntarily withdraw from the university.

The Carnegie Mellon Code can also be found on-line at:  
<http://www.cmu.edu/student-affairs/theword/code.html>.



# 3 DOCTORAL STUDIES IN ARCHITECTURE

Carnegie Mellon University is recognized for outstanding contributions to science, technology, management, policy and the fine arts. The School of Architecture builds on a tradition of interdisciplinary study. Our faculty's diverse set of backgrounds and commitment to professional practice and scholarly research make for a rich learning experience. Our graduates hold positions in innovative design practices, research organizations, federal and municipal governments, the building and manufacturing industries, and at leading universities both in the US and abroad. Our programs reflect a commitment to excellence. Students with motivation and ability receive an outstanding educational opportunity at Carnegie Mellon University's School of Architecture.

## DOCTOR OF PHILOSOPHY DEGREE PROGRAM OFFERINGS

The School of Architecture offers the Doctor of Philosophy degree in three (3) areas of concentration:

- Ph.D. in Architecture-Engineering-Construction Management [PhD-AECM] (jointly offered with Civil & Environmental Engineering)
- Ph.D. in Building Performance & Diagnostics [PhD-BPD]
- Ph.D. in Computational Design [PhD-CD]

Each Ph.D. program has a Track Chair who is a full time faculty in the School of Architecture with responsibility for the program curriculum (and any changes thereof), admissions as well as serving as the advisor to students with regard to matters pertaining to doctoral study in their respective program.

For details on all of our program offerings please visit our website at: <http://soa.cmu.edu/graduate/>.

# 4

## GRADUATE PROGRAM ADMINISTRATION

### 4.1 GRADUATE PROGRAM COMMITTEE

The Graduate Program Committee comprises all Track Chairs of respective Master Programs and Principal Advisors of Ph.D. students. The Director of the Graduate Program, appointed by the Head of the School of Architecture, chairs the Committee. The Director of the Graduate Program may nominate other faculty and graduate students to serve as members of the Committee.

The Committee monitors all post-professional programs and makes recommendations to the Head of the School. The Chair of the Graduate Program Committee determines who can or cannot vote on any matter brought before the committee, based on consideration of the role, qualification and expertise of members in relation to the subject matter, any potential conflict of interest or violation of confidentiality circumstance. Such determination shall be communicated in writing in advance to the Committee along with motion(s) prior to the vote being taken.

The Committee considers and may approve any petition requesting an exception from the academic guidelines and requirements spelled out in this document.

### 4.2 ADMISSIONS REVIEW

Admissions are normally reviewed in the Spring Semester.

The Graduate Program Committee oversees admissions to the PhD programs. The Track Chair coordinates the review process for applications to their program, and communicates all admission decisions to the Committee. Every application is multiply reviewed. Positive decisions require at least one faculty agreeing to advise the applicant. Exceptions to admissions requirements to any PhD program are referred to the Committee.

Student representatives in the Committee are excused from the review and decision-making process.

### 4.3 PHD PROGRAM COMMITTEE

The PhD Program Committee, comprising all faculty members who are Principal Advisors of Ph.D. students, administers all matters pertaining to the Ph.D. programs. Members of the PhD Program Committee are also members of the Graduate Program

Committee. The Chair of the Graduate Program Committee is a member of the PhD Program Committee.

The committee reviews and decides on all recommendations made by a student's advisory committee with respect to a student's progress (see Section 5). In this way, the committee assures that standards of excellence are maintained, consistently and uniformly, across the program.

# 5 PHD PROGRAM

## 5.1 OVERVIEW

Work towards a Ph.D. degree is divided into three phases, with indicative nominal duration: Course Work and Candidacy (one to four semesters), Thesis Proposal (one to two semesters), and Dissertation (two to four semesters).

In the first phase, students take courses on the tools, concepts, and methods that characterize their area of concentration. The candidacy qualifying examination is normally taken after the student has completed all coursework requirements as stipulated in the respective program concentration curricula. This phase ends when a student passes the qualifying examination, whereupon a student is deemed a *doctoral candidate*.

In the thesis proposal phase, the student completes the preliminary research needed to plan a course of action leading to a successful dissertation on a selected topic. The thesis proposal must be publicly defended. This phase ends when the thesis proposal is accepted, whereupon the doctoral candidate is deemed to be in *all but dissertation* (ABD) status.

In the dissertation phase, the student writes a dissertation on the selected topic that represents a significant research accomplishment, makes a significant contribution to knowledge in the area of concentration, and includes material worthy of publication. The dissertation must be publicly defended. The students will be awarded the degree upon successful completion of the defense and submission of the final dissertation document.

## 5.2 ADMISSION INTO THE Ph.D. PROGRAM

All applicants to the Ph.D. programs must complete the online application in full, and with all required supporting documentation. Information pertaining to application requirements, policies and procedures is available online at:  
<http://soa.cmu.edu/graduateadmissions/>.

The Graduate Program Committee will decide on the outcome of the application based on a review of the completed application materials. Each applicant will be notified of the outcome by email from the Graduate Admission Coordinator.

## 5.3 ORGANIZATION OF THE PROGRAM

### 5.3.1 Areas of Concentration

Each student enters the program and works toward a Ph.D. in a particular area of concentration as stated in Section 3. Curriculum requirements for each respective program are provided online at: <http://soa.cmu.edu/graduate/>.

### 5.3.2 Advisory Committee, Qualifying Examination Panel and Doctoral Committee

Upon admission, each Ph.D. student will be assigned an advisor (based on the student's research interest), who will be the Principal Advisor of the student. The Principal Advisor, who must be a full-time faculty of the School of Architecture, is responsible for all academic and administrative actions that become necessary during the course of study. The student, in consultation with their Principal Advisor, is responsible for selecting an Advisory Committee. This is normally done after completing all required coursework.

The Advisory Committee must be composed of at least three faculty members. The Principal Advisor will chair the Advisory Committee. One of the members of the Advisory Committee must be external to the School of Architecture.

Students may request to change the composition of the Advisory Committee at any time during the course of study. Such requests must be made in writing to the PhD Program Committee, and will be reviewed and subject to approval by the Committee.

For the Qualifying Examination in Phase 1 of the Ph.D. Program, the Advisory Committee will form the Examination Panel (see Section 5.3.4.1.2).

For Phase 2: Thesis Proposal and Phase 3: Dissertation, the Advisory Committee will become the Doctoral Committee of the Ph.D. candidate (see Sections 5.3.4.2 and 5.3.4.3).

### 5.3.3 PhD Game Plan

Once the Advisory Committee is formed, the student must submit a Game Plan to PhD Program Committee, which will include the following information:

- i) The names and affiliations of members of the Advisory Committee
- ii) Specification of the **chosen area of concentration** and an **abstract of scope of work** within the area of concentration
- iii) A **list of courses** taken (with grades achieved) and/or to be taken

The Game Plan must be signed by the student's Advisory Committee, and submitted to the PhD Program Committee. The Game Plan (and any subsequent modifications

thereof) must be approved by the PhD Program Committee. A sample of the Game Plan is provided in the Appendix B (see pages 33-40).

#### **5.3.4 Program of Study**

The minimum required full-time residency (minimum 36 academic units per semester) for the Ph.D. program in the School of Architecture is two years. Ph.D. students who have completed one or more years in one of the School's Master programs may count one year of their Master study toward the Ph.D. residency requirement.

Students who are unable to complete any phase after twice the expected time may be asked to withdraw from the program. See also Section 5.3.5.2 "Time to Degree".

##### **5.3.4.1 Phase I: Course Work and Candidacy**

The objective of this phase is to familiarize students with the tools, concepts and methods that characterize their area of concentration.

Phase 1 ends when a student passes the Qualifying Examination and is awarded doctoral candidate status.

###### **5.3.4.1.1 Course Work Requirements**

Students entering the program, unless otherwise approved, must complete the schedule of courses, and achieve the minimum total course work units for the selected area of concentration.

Students entering the program with a Master degree from Carnegie Mellon University or other institutions, through written petition, may be granted waivers for those courses already taken, and these may be counted towards the required total course work units; such courses will be assigned a Pass grade which is non-factorable toward the QPA calculation. However, the student's Advisory Committee may also require additional courses deemed necessary for the specific topic in the area of concentration.

Students, in consultation with their Advisory Committee, may also request for substitution of a required course to meet specific need.

The student is responsible for submitting all requests for course waivers and substitutions and any other deviation from the published course work requirements to the PhD Program Committee through the Principal Advisor (and with their agreement) for approval. Any approved change must be given in writing and recorded by the student in their Game Plan accordingly. Regardless of any such change, the minimum full-time residency requirement must be fulfilled.

#### 5.3.4.1.2 Qualification for Candidacy

The Ph.D. Qualifying Examination is administered once each semester.

The student's Advisory Committee will form the Qualifying Examination Panel. The objective of the Qualifying Examination is to provide evidence that the prospective candidate is:

- Familiar with basic concepts, techniques and methodologies that characterize the selected area of concentration
- Ready and able to apply this knowledge through independent and self-directed research on their own
- Ready to demonstrate an ability to deal with specialized as well as broader views related to the field of study

**PRECONDITIONS** – Prior to taking the Qualifying Examination, the student must:

1. Complete all required coursework with a minimum overall QPA of 3.0.
2. Submit an up-to-date Game Plan (see Section 5.3.3) to the Graduate Program Administration.
3. Complete the equivalent of at least 36 units of independent research, which is certified by the student's advisor, and submitted to the PhD Program Committee to be kept in the records.

The Ph.D. Qualifying Examination comprises two parts:

**WRITTEN EXAMINATION** – In which a student is asked to provide written answers to questions posed by the Qualifying Examination Panel. Composition of the questions is to meet the following goals:

- Test the student's knowledge of the area of concentration in depth
- Cover both conceptual and technical issues
- Test the student's ability to address a wider range of issues and problems associated with the field of study

Each examiner poses one (1) question. The chairperson of the Qualifying Examination Panel compiles the questions, which are circulated to the School's PhD Program Committee for review and feedback is provided to the Examination Panel.

The student is given time, equivalent to one (1) day for each question, to provide answers, which are then reviewed by the Examination Panel.

**ORAL EXAMINATION** – This examination is conducted by the Examination Panel, based on answers submitted by the student for the Written Examination. It provides an opportunity for follow-up explorations within the spectrum of topics established through the courses taken by the student.

The oral examination is scheduled no later than two (2) weeks after the answers to the written examination have been received. The oral examination is attended by the Examination Panel and by, at least one faculty designated by the PhD Program Committee, to act as an observer of the proceedings. Only the Examination Panel is permitted to ask questions. At the end of the examination, the Panel solicits the opinions of faculty present and formulates their own evaluation.

**OUTCOME** – There are three (3) possible outcomes:

1. The student passes the examination.  
However, the Examination Panel, in its judgment, may recommend additional work. All such recommendations must be specified in writing.
2. The student fails, but in the Examination Panel’s judgment, is able to correct their deficiencies through additional work and re-examination.  
The time frame for the scope of work and schedule of re-examination must be specified in writing.  
Each student may be permitted to be re-examined, but only once.
3. The student fails and is dropped from the program.

The outcome of the examination is given in the form of a written evaluation, signed by the committee and observer, and communicated to the PhD Program Committee for the records, and to the student on the day of the oral examination. A sample sign-off sheet is shown in Appendix C.

#### **5.3.4.2 Phase II: Thesis Proposal**

The objective of this phase is to identify a suitable thesis topic and to complete the preliminary research needed to plan a course of action leading to a successful dissertation on that topic. Candidates will have to demonstrate their ability to:

- Isolate, define and structure a previously unstructured or unresolved problem in their area of concentration
- Make an original contribution to this field
- Follow the general conventions and techniques of academic research
- Apply knowledge and skills acquired through the course of study
- Communicate ideas in a clear and coherent manner

##### **5.3.4.2.1 Form of Proposal**

A thesis proposal must be submitted in written form to the Doctoral Committee and prepared for an oral presentation at a public seminar. It should be concise and lucid, but sufficiently complete to allow for an evaluation of the above criteria.

The following parts are required:



**Cover page**, listing the following:

- Proposed title
- Candidate's name
- School's name and degree sought
- Names and affiliations of the Doctoral Committee members
- Date of submission

**Abstract**, which summarizes the proposal and succinctly states its salient points.

**Description of the research problem**, to be addressed in the thesis. This description must:

- State the problem in a concise manner
- Explain its significance and the context in which it arises

**Description of the approach**, to be pursued. At minimum, it must contain the following:

- A review of the research and theory relevant for solving the problem
- A specification of the conceptual framework adapted for solving the problem
- An identification of specific theories, methods or sources of data expected to be employed in the thesis
- A preliminary timetable

### **Bibliography.**

Once the candidate's Doctoral Committee has received a complete thesis proposal, only then can its presentation be scheduled.

#### **5.3.4.2.2 Submission of Proposal**

One (1) week prior to the scheduled proposal presentation, two (2) copies of the thesis proposal must be posted publicly, and all faculty of the School of Architecture notified of the time and place of the meeting by the School.

#### **5.3.4.2.3 Presentation of Proposal**

The proposal presentation must be scheduled only during the Fall or Spring Semesters as per the official University calendar. The Chair of the Doctoral Committee will organize the event and inform the Graduate Program administration.

A proposal presentation cannot be scheduled to overlap with another.

The proposal must be presented at a public seminar. The faculty at large of the School will be invited to this presentation.

The Doctoral Committee must fully participate in person, or by “live interaction”<sup>†</sup> via telephone conference call, videoconference, voice-over-Internet, and Web cam or other “synchronous” communication systems that may be available at the time.

The Doctoral Committee will make a decision on the acceptance of the proposal, based on the written proposal, the seminar and the opinions of the attending faculty. This decision, signed by the committee, is communicated in writing to the PhD Program Committee for the records and to the student within one week of the examination.

It is up to the discretion of the PhD Program Committee to ask any candidate who fails the proposal to withdraw from the program. No candidate can remain in the program after two failed proposal attempts.

### **5.3.4.3 Phase III: Dissertation**

The objective of this phase is to write a dissertation based on the selected topic that:

- Represents a significant research accomplishment
- Makes a significant contribution to knowledge in the area of concentration
- Includes material worthy of publication

#### **5.3.4.3.1 Submission of Dissertation**

Candidates must submit to the Doctoral Committee a substantially complete version of their dissertation no later than one and one-half (1½) months before the deadline stipulated by the University in the semester in which they hope to complete their Ph.D. program of study. The committee then has a maximum of one (1) month to review the dissertation; during this time, the student may be required to do further writing and amendments.

Two (2) weeks prior to the scheduled dissertation defense, three (3) copies of the final draft will be posted publicly, and all faculty of the School of Architecture notified of the time and place of the meeting by the School.

#### **5.3.4.3.2 Dissertation**

A dissertation must be publicly defended. This defense serves to:

- Give faculty the opportunity to assess whether the research program specified in the candidate’s thesis proposal has been carried out satisfactorily
- Provide a forum for the communication of the research results

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<sup>†</sup> The option to ‘interact live’ applies only to external committee members, and to those internal committee members who are on leave of absence or on assignment off-campus.

No dissertation will be scheduled for public defense until the document representing the work of the candidate is reviewed and accepted for presentation by the candidate's Doctoral Committee. At minimum, it must include:

1. Title page
2. Abstract
3. Table of contents
4. A finished text that completely describes the work and includes all references and citations

The style and format of this document shall conform to those accepted in the field closest to the dissertation's field of study. This document will be called the "final draft" of the dissertation, from here on.

A doctoral student must register for **48-797 PhD Dissertation Defense** in the semester in which their dissertation is defended.

The dissertation defense must be scheduled only during the Fall or Spring semesters as per the official University calendar. The dissertation defense cannot be scheduled to overlap with another.

The Chair of the Doctoral Committee will organize the event and inform the Graduate Program administration. The administration will disseminate the event announcement throughout the campus.

The Doctoral Committee must fully participate in person, or by "live interaction" † via telephone conference call, videoconference, voice-over-Internet, and Web cam or other "synchronous" communication systems that may be available at the time.

The Doctoral Committee will make a decision on the acceptance of the dissertation, based on the written work and the oral defense and consideration of views of other faculty. This decision must be communicated in writing to the PhD Program Committee for approval. It is up to the discretion of the PhD Program Committee to ask in writing any student who fails the dissertation phase to withdraw from the program. No student may remain in the program after failing two dissertation attempts.

Students can only be certified for the award of the Ph.D. degree after their Doctoral Committee and the Dean of the College of Fine Arts have signed off on their dissertation (certifying passing both the oral and written parts) and an approved final draft of their dissertation (hard copy and a soft copy on CD) has been made available for public dissemination through the Carnegie Mellon University Library and the University Microfilms Incorporated.

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† The option to 'interact live' applies only to external committee members, and to those internal committee members who are on leave of absence or on assignment off-campus.

### 5.3.4.3.3 Electronic Dissertation Submission

Electronic submission procedures as well as more information on the student's publishing options may be found on Hunt Library's website:

<http://www.library.cmu.edu/datapub/sc/dissertation/decisions>.

On the website can be found the Ph.D. dissertation electronic submission checklist which is intended to be completed by the student:

<http://www.library.cmu.edu/datapub/sc/dissertation/submitting>.

The student will have the option of choosing to publish through ProQuest and/or presenting their dissertation in Research Showcase. Again, more information on these options can be found through the library's website.

Once the checklist is completed by the student and has been returned to their graduate coordinator along with a PDF of their dissertation, a signature page should be created with typed signatures, not real signatures. This signature page should be attached to the beginning of the PDF. The file can then be uploaded to the Library's FTP site by the graduate coordinator.

Instructions for depositing the dissertation onto the FTP server may be found here:

<https://libwebspace.library.cmu.edu/libraries-and-collections/Services/Dissertation/How%20to%20Upload%20a%20document%20to%20the%20Library%20FTP%20server%20using%20Mac%20.pdf>

<https://libwebspace.library.cmu.edu/libraries-and-collections/Services/Dissertation/How%20to%20Upload%20a%20document%20to%20the%20Library%20FTP%20server%20using%20Windows.pdf>

Once the dissertation is uploaded to the FTP server, a notification email must be sent to Christina Garmon ([cgarmon@andrew.cmu.edu](mailto:cgarmon@andrew.cmu.edu)) and Alice Bright ([ab03@andrew.cmu.edu](mailto:ab03@andrew.cmu.edu)).

After the dissertation has been uploaded, a paper copy of the student's checklist, their ProQuest forms (if applicable) and any payment for ProQuest options chosen by the student should be mailed to the Mailroom at Hunt Library.

### 5.3.5 All But Dissertation (ABD) Status

After the completion of Phase II of the Ph.D. Program in the School of Architecture, doctoral candidates shall be regarded as **All But Dissertation** (ABD). The School of Architecture verifies the achieving of ABD status, which the School certifies, in writing, to Enrollment Services.

#### 5.3.5.1 Doctoral Candidacy Policies for ABD

The School of Architecture adopts the general University's policies pertaining to ABD status ("Doctoral Student Status Policy" adopted April 5, 2011), with specific declarations relevant to the School (<http://www.cmu.edu/policies/student-and-student-life/doctoral-student-status.html>).

The university's policies cover: time limits on doctoral student status, a definition of ABD status, a definition of In Residence and In Absentia status for doctoral students and the tuition charged for students In Residence and for students In Absentia. These rules apply to all doctoral students. Students who began their doctoral studies prior to the date of this policy's revision may follow time-to-degree requirements from the previous policy, but all other rules set forth in this policy will apply immediately to all doctoral students.

All references to **department** in the sequel will apply to the School of Architecture. All references to **college** in the sequel will apply to the College of Fine Arts.

#### 5.3.5.2 Time to Degree

Students will complete all requirements for the Ph.D. degree within a maximum of ten years from original matriculation as a doctoral student, or less if required by a more restrictive department or college policy. Once this time-to-degree limit has lapsed, the person may resume work towards a doctoral degree only if newly admitted to a currently offered doctoral degree program under criteria determined by that program.

Under extraordinary circumstances, such as leave of absence, military or public service, family or parental leave, or temporary disability, a school or college may, upon the relevant department's recommendation and with the written approval of the dean, defer the lapse of All But Dissertation status for a period commensurate with the duration of that interruption. Students, who are pursuing the Ph.D. degree as part-time students for all semesters of their program, as approved by their program, may also appeal to their program or department for extension of the time to degree limit.

#### 5.3.5.3 ABD Status

All But Dissertation (ABD) status is intended for doctoral students whose only remaining requirements are the completion and defense of their thesis. Once the student meets the departmental criteria <sup>(1)</sup> ABD status must be approved by the department in writing to: [universityregistrars-office@andrew.cmu.edu](mailto:universityregistrars-office@andrew.cmu.edu).

#### 5.3.5.4 In Residence versus In Absentia

Once students achieve All But Dissertation status, they must choose whether to complete their dissertation *In Residence* or *In Absentia*. A doctoral student *In Residence* maintains student status and all consequent student privileges and continues to be actively engaged

with the university. A doctoral student *In Absentia* status, ABS, is one who has left the university with the intent of completing their dissertation but not actively engaged with the university and does not require university resources as outlined below. When a student decides whether to pursue All But Dissertation *In Residence* or *In Absentia*, they must complete an ABD Status Agreement, which is available on [The HUB](https://www.cmu.edu/hub/registration/graduates/abd.html) web site (<https://www.cmu.edu/hub/registration/graduates/abd.html>). Once the academic department approves the agreement, the student may change their status from *In Residence* to *In Absentia* multiple times. A student *In Residence* or *In Absentia* must meet the specific criteria noted in Sections 5.3.5.5 through 5.3.5.6.1.

The university will not verify any student *In Absentia* as a "student" for immigration or loan purposes. All But Dissertation students in J1 or F1 immigration status must continue to follow the Department of Homeland Security (DHS) regulations.<sup>(2)</sup>

#### 5.3.5.5 ABD Students *In Residence*

All But Dissertation students *In Residence* receiving any financial support (such as tuition, stipend, fees or health insurance, whether full or partial), tied to activities that are integral to their doctoral program that is paid by or administered by the university must be enrolled for at least thirty-six units to maintain full time student status and all subsequent student privileges. The Provost may grant exceptions to the thirty-six (36) units enrollment requirement.<sup>(3)</sup>

All But Dissertation students *In Residence* who are not receiving any financial support (such as tuition, stipend, fees or health insurance, whether full or partial), from the university tied to activities that are integral to their doctoral program should consult their college policy to determine the number of units for which they must be registered in order to maintain full-time student status and all subsequent privileges.

All But Dissertation students *In Residence* who are pursuing their doctoral degree on a part time basis and are not receiving any financial support (such as tuition, stipend, fees or health insurance, whether full or partial), from the university tied to activities that are integral to their doctoral program should consult their college policy to determine the number of units they must be registered for in order to maintain part time student status and all subsequent privileges. Note that doctoral students must be a full time graduate student for at least one academic year or more if required by the student's home college.

All But Dissertation students who are employed by the University in a capacity independent of their educational program and are pursuing a doctoral degree part time, may register for the number of units required by their department in order to remain in part time status so long as they are not receiving any financial support (such as tuition, stipend, fees or health insurance, whether full or partial), tied to activities that are integral to their doctoral program by their college, school or department. Questions about eligibility for tuition benefits should be referred to the Benefits Department.

#### 5.3.5.5.1 Final Semester Tuition ABD Students *In Residence*

Students who are supported by the university must be registered for thirty-six (36) units for the entire final semester and will be assessed their college's full-time tuition.

If a student **completes all Ph.D. degree requirements** and **is certified by:**

- **September 30** (in the Fall Semester), or **February 28** (in the Spring Semester), tuition will be **adjusted to \$0**; however, they will remain enrolled for thirty-six (36) units for the semester.
- **October 31** (in the Fall Semester), or **March 31** (in the Spring Semester), tuition will be **adjusted to 50%** of the full-time tuition; however, they will remain enrolled for thirty-six (36) units for the semester.
- **After October 31** (in the Fall Semester), or **after March 31** (in the Spring Semester), but **BEFORE the first day of the next semester**, tuition will **NOT** be adjusted and they will remain enrolled for thirty-six (36) units for the semester.
- Fees will **NOT** be adjusted.

Students registered for **less than thirty-six (36) units** are **NOT** eligible for a tuition adjustment, regardless of certification date.

#### 5.3.5.6 ABD Students *In Absentia*

An All But Dissertation doctoral student may, upon departmental certification, be regarded as *In Absentia* when, and so long as, the following three conditions apply:

- The student has been enrolled as a full-time graduate student at Carnegie Mellon University for at least one academic year or more if required by the student's home college. Part-time graduate enrollment may, at the department's discretion, be counted *pro-rata* toward this requirement.
- The student does not receive any financial support (such as tuition, stipend, fees or health insurance) tied to activities that are integral to their doctoral program that is paid by or administered by the university.
- The student does not require substantial use of university resources. Departmental certification of this condition shall be subject to guidelines established by the school or college.

In accordance with university guidelines, *students In Absentia* may<sup>(4)</sup>:

- Use university libraries
- Use the university stores
- Use computing facilities only for department communications and for thesis text preparation
- Enter university buildings for faculty/student consultations
- Be eligible for student health insurance as determined on a case by case basis<sup>(5)</sup>
- Use the Career and Professional Development Center
- Become university employees

May **NOT**:

- Be employed with a graduate student stipend<sup>(6)</sup>
- Maintain legal F1 or J1 student status
- Use University Health Services<sup>(5)</sup>
- Buy parking permits<sup>(7)</sup>
- Use athletic facilities<sup>(7)</sup>
- Reside in university housing

#### 5.3.5.6.1 Employment of ABD Students *In Absentia*

As noted above, All But Dissertation students *In Absentia* are extended only minimum access to university resources. The student does not receive any financial support (such as tuition, stipend, fees or health insurance, whether full or partial), tied to activities that are integral to their doctoral program paid by or administered by the university. An All But Dissertation student *In Absentia* cannot be hired for work by Carnegie Mellon University directly related to completing their dissertation and/or make substantial use of resources for work toward the doctorate as noted above.<sup>(4)</sup> In order to be in compliance with these policies, the university's employment policies and the Internal Revenue Service, an All But Dissertation student *In Absentia* may only be hired for university employment through the appropriate employment process. Questions should be referred to Human Resources.

#### 5.3.5.6.2 Tuition and Fee Effects of *In Absentia* Student Status including the Final Semester

While an All But Dissertation student is *In Absentia*, no tuition will be assessed. The student will, however, be responsible for all applicable fees. An All But Dissertation student who is *In Absentia*, who returns to defend their dissertation must change from *In Absentia* to *In Residence* and shall be required to register and pay for at minimum



five units of graduate study, based on their current school/college's tuition before the degree is certified.

A student who receives support (such as tuition, stipend, fees or health insurance, whether full or partial) paid for or administered by the university, must follow the policy for Final Semester Tuition for All But Dissertation Students *In Residence* (see above) and is eligible for the tuition to be pro-rated as identified in the schedule.

A student who is not receiving any financial support (such as tuition, stipend, fees or health insurance, whether full or partial), paid for or administered by the university will be assessed for the 5 units and the tuition rate will not be adjusted based on certification date.

#### **5.3.5.7 Doctoral Students Enrolled Prior to Fall 2011**

Doctoral students enrolled prior to Fall 2011 are covered by the time to degree requirements as stated in the Doctoral Candidate Policies for All But Dissertation (ABD) Policy, which was in place from February 28, 1991 through May 31, 2011. The relevant policy section is: "Once students achieve ABD status, their doctoral degree candidacy shall continue for a maximum of seven full academic years, unless terminated earlier by conferral of the degree, by academic or administrative action, or by a lapse of candidacy due to more restrictive department or college policy. At the expiration of the seven-year period, candidacy status shall lapse. Once candidacy has lapsed, the person may resume work towards a doctoral degree only if newly admitted to a currently offered doctoral degree program under criteria determined by that program."

#### **Notes: Section 5.3.5**

- (1) General examples of having met All But Dissertation requirements may include completing all courses and passing qualifying exams; completing all courses and acceptance of thesis proposal; etc. as defined by program, department or school.
- (2) The intent of the DHS regulations is that the student continues to pursue completion of the degree on a full-time basis under the jurisdiction of the university that will award the degree. International students who enter All But Dissertation status must remain In Residence and be registered full-time as defined in this policy to preserve F1 or J1 immigration status while they complete their degree. Questions about All But Dissertation status and immigration requirements should be addressed to the Office of International Education.
- (3) If granted exception results in the student's enrollment being reduced to less than half time, tax consequences may apply.
- (4) An All But Dissertation student In Absentia may be hired as an university employee without switching to active student status so long as the hiring department certifies that the student is not hired at Carnegie Mellon for work directly related to their dissertation and that the student does not inappropriately make substantial use of resources for work towards the doctorate as

noted above. As an employee, an individual would be eligible for benefits that apply to their status as an employee, not as a graduate student.

- (5) University Health Services is not available to students in In Absentia status, except in an emergency, or on a case-by-case basis. All inquiries may be directed to the Manager of Business Operations, University Health Services.
- (6) Graduate students are not considered employees of the university as their primary affiliation with the university is as a student.
- (7) An individual whose primary relationship with the university is as an employee and who as Ph.D. student moves to the status of ABD In Absentia will be eligible for benefits that apply to their status as an employee.

# 6 STANDARDS, POLICIES & PRACTICES

Unless otherwise stated, and where specific and detailed declarations are provided by the School of Architecture, the Graduate Programs in the School adopts the standards, policies and practices stated in the prevailing Carnegie Mellon University Graduate Student Handbook (“The WORD”) pertaining to academic advising, academic resources, curricular and enrollment issues, and academic rights and responsibilities. The WORD can be found online at: <http://www.cmu.edu/student-affairs/theword/>.

## 6.1 PROGRAM ADMINISTRATION

The Ph.D. programs are administered by the Graduate Program and PhD Program Committees. Their general roles and responsibilities are described in Section 4, and specifically, in relevant sub-sections under Section 5.

## 6.2 ACADEMIC ADVISING

Ph.D. student are guided in their academic study in the School by their Advisory Committees (see Section 5.3.2). A student may also seek advice from the Director of the Graduate Program, the Head of School and the other graduate program faculty as well as the Graduate Program Administrative Coordinator.

## 6.3 ACADEMIC RESOURCES

The University offers a range of academic resources, which are listed in the University Graduate Student Handbook ([The WORD](#)). These include Academic and Professional Development Seminars and Workshops, Teaching Support, intercultural communication, computing services and libraries.

## 6.4 CURRICULA AND ENROLLMENT INFORMATION

The University Graduate Student Handbook ([The WORD](#)) provides information pertaining to:

1. Standards for Academic and Creative Life
2. Privacy Rights for Students

3. Academic Standards and Actions
4. Cheating and Plagiarism Policies
5. Academic Disciplinary Actions Overview

### 6.4.1 Enrollment Verification

Enrollment Services is the only University office that can provide an official letter of enrollment, official transcript and enrollment verification. Enrollment verification can be requested online through The HUB at:

<http://www.cmu.edu/hub/records/verifications/enrollment.html>.

Specific Declarations in the School of Architecture

#### 6.4.1.1 Privacy Rights of Students

Every student at Carnegie Mellon University is protected by FERPA (Family Educational Rights and Privacy Act): <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>.

##### 6.4.1.1.1 Student Reports & Records

An academic record file is created and maintained by the Graduate Program Administration when a student first enrolls in the Ph.D. Program. The following documents will be maintained in the file:

- **Application and all supporting documentation, and admission review forms** completed by relevant members of the Graduate Program Committee
- **Game Plan** submitted by the student, approved by the Advisory Committee
- **Qualifying Examination Documentation** – examination questions, responses by student, and outcome reported by the Qualifying Examination Panel
- **Thesis Proposal Documentation** – proposal document, result outcome of the thesis proposal reported by the Doctoral Committee
- **Dissertation Documentation** – copy of the final dissertation, result outcome of the dissertation defense reported by the Doctoral Committee
- **Any academic action reporting by the Graduate Committee and the Doctoral Committee** – letters of commendation, warning, probation
- **Any formal report of academic progress and performance** by the Advisory Committee and Doctoral Committee
- **Documentation pertaining to the enrolment status of the student** – provided by the School’s graduate program administration
- **Documentation on financial support** where applicable (e.g., award of scholarships, fellowships, etc.)
- **Other relevant documentation** (e.g., support letters, etc.)

Access and review of a student's records by students and university personnel are governed by the Public Law 93-380 "The General Education Provisions Act" and other relevant policies of Carnegie Mellon University, as stated in the University Graduate Student Handbook ([The WORD](#)).

#### 6.4.1.2 Academic Actions and Standards

##### 6.4.1.2.1 Academic Integrity and Disciplinary Action

All Ph.D. students are strongly recommended to read the University Graduate Student Handbook ([The WORD](#)) with regard to Cheating and Plagiarism and Academic Disciplinary Actions Overview for Graduate Students as well as the University policy web page at

<http://www.cmu.edu/policies/documents/Academic%20Integrity.htm>.

The School of Architecture adopts all definitions and practices as stipulated, including:

1. Statute of Limitation
2. Confidentiality
3. Procedures
4. Initial Review
5. Decision and Action(s)
6. Reporting of Initial Action(s)
7. Second-level Review & Action(s)

Access and review of a student's records by students and university personnel are governed by the Public Law 93-380 "The General Education Provisions Act" and other relevant policies of Carnegie Mellon University, as stated in the University Graduate Student Handbook ([The WORD](#)).

##### 6.4.1.2.2 Grading Policy

Unless otherwise specifically declared, the School of Architecture adopts the University policy, which offers details concerning university grading principles for students taking courses,

<http://www.cmu.edu/policies/student-and-student-life/grading.html>.

This policy covers the specifics of Assigning and Changing Grades (including Final and Mid-Semester grades, Incompletes and Conditional Failures), Grading Options (Audit and Pass/Fail), Drop/Withdrawals, Course Repeats, and defines the undergraduate and graduate Grading Standards.

Questions about grading for a specific course should be addressed to the instructor of the course in question. Graduate students with questions about Pass/Fail and

Drop/Withdrawal should contact their Program Track Chair, or Graduate Program Director.

Appeals for an exception to any grading policy may be made by the Dean's office of the College of Fine Arts to the University.

A Table containing details on the Graduate student Grading Standard, according to University Policy (as of Fall 1995) can be found in Appendix A, on page 30.

#### **6.4.1.2.3 Progress Review**

The Graduate Program Committee holds a Grades Meeting at the end of each semester, after the semester grades have been issued. The purpose of this meeting is to review and monitor the academic progress of all graduate students. In this meeting, the Chair will present a written progress report to the Graduate Program Committee along with oral reports by the Principal Advisor of each doctoral student. Any academic actions or recommendations developed are transmitted, in writing, to students and to the Head of the School by the Graduate Program Committee, after the Graduate Program Grades Meeting.

In addition to the Grading Practices and Academic Actions stipulated by the University and College of Fine Arts, the Graduate Program in the School of Architecture has implemented the following School-level actions:

**COMMENDATION** – For achieving a quality point average of 4.0 in any semester while carrying a full academic load of a minimum of 36 units AND comprising a minimum of four courses.

**WARNING** – For achieving a grade below a minimum of B- in a course related to the program concentration OR a minimum grade of C in any course taken in any semester while still maintaining a minimum overall quality point average of 3.0.

**PROBATION** – For repeated “WARNING” performance defined above in a consecutive semester after WARNING has been previously issued, AND when the Graduate Program Committee determines that there is still a possibility for the student to improve their performance to meet requirements for graduation as stipulated in the respective program descriptions online.

**DROP FROM PROGRAM** – For repeated WARNING performance defined above in a consecutive semester after WARNING or PROBATION has been previously issued, AND when the Graduate Program Committee determines it is unlikely that the student will be able to meet the requirements for graduation.

## 6.5 ACADEMIC RIGHTS AND RESPONSIBILITIES

Standard information pertaining to academic rights and responsibilities listed in the University Graduate Student Handbook (The WORD) cover the following:

1. Degree attainment: achievement, timeline & format of requirements
2. Financial Support
3. Dissertation & Theses
4. Graduate Student Concerns & Grievances
5. All But Dissertation Policy
6. Intellectual Property Policy
7. Research
8. Policy for Handling Alleged Misconduct in Research

### 6.5.1 Specific Declarations in the School of Architecture

#### 6.5.1.1 Degree Attainment and Support Services

See Sections 3 and 4.

#### 6.5.1.2 Student Rights – Concerns and Grievances

The School of Architecture adopts the University’s practices regarding student rights. Students who believe that they have been treated inappropriately are encouraged to raise their concern(s) with their Program Track Chair, Director of Graduate Programs, Head of School or other designated people in their department, college or central administration. For further information about procedures that graduate students can pursue when addressing concerns and grievances, go to <http://www.cmu.edu/graduate/policies/appeal-grievance-procedures.html>.

#### 6.5.1.3 “Grandfather” Policy

The School maintains a “grandfather” policy that assures that students can graduate under the policies in effect at the time of matriculation.

##### 6.5.1.3.1 New Policies

When policies are changed it is because the school believes the new rules offer an improvement; graduate students will be informed of any changes. However, students currently enrolled whose degree program is affected by a change in policy may choose to be governed by the older policy that was in place at the time of their matriculation so long as the change is curricular and not procedural. In case degree requirements are changed and certain courses are no longer offered, the school will

try to find some compromise that allows those students to satisfy the original requirements.

#### **6.5.1.4 Intellectual Property Policy, Restricted Research and Policy for Handling Alleged Misconduct in Research**

The School adopts the University's policies pertaining to:

- Intellectual Property:  
<http://www.cmu.edu/policies/administrative-and-governance/intellectual-property.html>
- Restricted Research:  
<http://www.cmu.edu/policies/research/restricted-research.html>
- Handling of Alleged Misconduct in Research:  
<http://www.cmu.edu/policies/research/handling-alleged-misconduct-in-research.html>

#### **6.5.1.5 Financial Obligations and Support**

The tuition charges for each academic year, as published by the University, apply only to the Fall and Spring semesters. Summer tuition, whenever applicable, are additionally charged and are normally based on number of academic units taken. The University also publishes estimated cost of living for a graduate student each year at:

<http://www.cmu.edu/hub/tuition/graduate/cfa.html>.

The School of Architecture does consider application for financial support. However, the award of graduate student support is dependent on several factors:

1. Acceptance into one of the Ph.D. programs in the School
2. Needs of the School for Teaching Assistants in undergraduate courses
3. Funds available to the School for various research projects and/or programs from within the University or from external sources
4. Other budgetary resources of the School which may be allocated for graduate student support (only for Fall and Spring semesters)

Subject to the above factors, financial support is normally provided on a semester-to-semester basis, covering the Fall and Spring semesters, but every effort will be made to provide continuity of support. Summer support, if available, must be separately negotiated. Continuation of financial support is reviewed each semester by the faculty member providing the support and the PhD Program Committee, and is dependent on availability of funding, the academic standing of the student as well as the work performance in the research project(s) and/or teaching assistance.



#### **6.5.1.5.1 Research Assistantship (RA) and Teaching Assistantship (TA)**

A Ph.D. student who is fully funded (tuition and stipend) by the School during the Fall or Spring semesters is expected to contribute 20 hours of work per week. The work may involve serving as Research Assistant for project(s), or Teaching Assistant, or both. The nature of work and responsibilities will vary depending on the project(s) and courses.

The School has no obligation to provide RA-ships or TA-ships for self-supported Ph.D. students. Should these students be appointed as RA or TA, monetary compensation will be provided based on the hourly rate established by the University, and up to 20 hours per week, unless otherwise agreed with the faculty providing the support and approved by the PhD Program Committee.

Every effort will be made by the faculty to support and mentor those Ph.D. students who have an interest in an academic career and to give them increasing teaching responsibilities as the ability of the student develops. For Ph.D. students willing to and capable of being course instructors, teaching a course is equivalent to serving as a TA for two courses. In this case, the student will be supervised by a faculty advisor or mentor.

As a default, summer stipend support, if available, remains the same as the regular semester and hours expected remain the same (i.e., 20 hours per week). The principle is that students will continue to work on their own Ph.D. research work during summer. Any variation to this may be negotiated between the student and the Principal Advisor.

Only students engaged in full 3 months of RA work in summer can be given 2 weeks off (paid). Otherwise, the student will only be paid for their actual working time.

International students are reminded that they must comply with United States Citizenship and Immigration Services (USCIS) policies pertaining to their visa status. The Office of International Education is a resource for international students on this issue.

#### **6.5.1.6 Graduate Student Conference Fund**

The School of Architecture encourages students to advance their own academic, professional and career development through the publication and presentation of papers and/or attendance at conferences, seminars, symposia and workshops. A limited funding budget is available each year through the School of Architecture and is intended to offset the costs associated with the presentation of papers, posters, research products or creative work. Applications are considered on a first-come-first-serve basis, subject to available fund balance. Details and application forms will be available online at:

<http://www.cmu.edu/architecture/admitted-students/index.html>.

#### **6.5.1.7 Student Leave and Return Policies**

The School of Architecture adopts the University's student leave and return policies. For more Student Leave and Return information, refer to:

<http://www.cmu.edu/policies/student-and-student-life/student-leave.html> and <http://www.cmu.edu/policies/student-and-student-life/return-student.html> respectively.

#### **6.5.1.8 Student Suspension and Required Withdraw**

The School of Architecture adopts the University's policy on student suspension and required withdrawal. For more information, refer to:

<http://www.cmu.edu/policies/student-and-student-life/suspension-required-withdrawal-policy.html>.

#### **6.5.1.9 Outside Employment and Internship**

In general, outside employment is discouraged during the period of full-time graduate studies except where specified by any given program. When the employment is for an outside organization the student's Program Track Chair and the Head of the School must be notified in writing. It is the student's responsibility to ensure that such outside employment is allowed by the appropriate regulations (e.g., immigration rules, scholarship funding agency rules etc.).

In the case of an internship, it must meet a declared curricular or research objective. In such cases, the internship is equivalent to either 3 units of required elective credit, or up to a maximum of 36 units of independent study to fulfill a curricular requirement. Internships require approval of the student's advisor, or Program Track Chair. Internships may be taken at any time during the calendar year.

International students are required to consult with the Office of International Education for eligibility before seeking outside employment, an internship/co-op or signing an offer contract.

#### **6.5.1.10 Visiting Students, Scholars and Fellows**

Visiting students, scholars and fellows supported by outside funding sources who wish to undertake post-graduate or non-matriculating academic work at the School of Architecture may do so at the discretion of the Head of the School, and may be required to provide an amount equal to the current graduate student tuition to the School on a semester by semester basis.

#### **6.5.1.11 University Information on Finance and Financial Aid**

The “Graduate Student Financial Aid Guide” provides detailed and useful information regarding the following:

1. Financial Aid Application Process
2. Loan Eligibility
3. Fellowships and Scholarships Office (FSO)
4. Tuition Payment Plans (TMS)
5. Student Employment
6. Summer Stipend Payment Options
7. Tax Status of Graduate Student Awards
8. Tuition Remission
9. And more....

Detailed information can be found online at:

<http://www.cmu.edu/finaid/docs/grad-guide.pdf> and  
<http://www.cmu.edu/finaid/basics/graduate/>.

## **6.6 STATUTORY RIGHTS AND COMPLIANCE WITH REGULATIONS**

### **6.6.1 Assistance for Individuals with Disabilities**

The Carnegie Mellon University has a continued mission to provide physical and programmatic campus access to all events and information within the Carnegie Mellon community. The Office of Disability Resources works to ensure that qualified individuals receive reasonable accommodations as guaranteed by the Americans with Disabilities Act (ADA) and Sections 503 and 504 of the Rehabilitation Act of 1973. Students who would like to receive accommodations must submit a Voluntary Disclosure of Disability Form to [access@andrew.cmu.edu](mailto:access@andrew.cmu.edu) to begin the interactive accommodation process.

For more information please see <http://www.cmu.edu/hr/eos/disability/index.html>.

Students with disabilities are encouraged to self-identify with Equal Opportunity Services by contacting Larry Powell, 412-268-2013, [lpowell@andrew.cmu.edu](mailto:lpowell@andrew.cmu.edu) to access the services available at the university and initiate a request for accommodations.

### **6.6.2 Safeguarding Educational Equity Policy against Sexual Harassment and Sexual Assault**

Sexual harassment and sexual assault are prohibited by Carnegie Mellon University, as is retaliation for having brought forward a concern or allegation in good faith. The policy

can be viewed in its entirety at:

<http://www.cmu.edu/policies/administrative-and-governance/sexual-harassment-and-sexual-assault.html>.

If you believe you have been the victim of sexual harassment or sexual assault, you are encouraged to make contact with any of the following resources:

- Sexual Harassment Advisors, found in appendix A of the Policy Against Sexual Harassment and Sexual Assault;
- Survivor Support Network, found in appendix B of the Policy Against Sexual Harassment and Sexual Assault;
- Sexual Harassment Process and Title IX Coordinators, found in section II of the Policy Against Sexual Harassment and Sexual Assault;
- University Police, 412-268-2323
- University Health Services, 412-268-2157
- Counseling & Psychological Services, 412-268-2922

### **6.6.3 Maternity Accommodation Protocol**

Students whose anticipated delivery date is during the course of the semester may consider taking time away from their coursework and/or research responsibilities. All female students who give birth to a child while engaged in coursework or research are eligible to take either a short-term absence or formal leave of absence. Students in course work should consider either working with their course instructor to receive incomplete grades, or elect to drop to part-time status or to take a semester leave of absence. Students engaged in research must work with their faculty advisor(s) to develop plans for the research for the time they are away.

The Student Maternity Accommodation Protocol has been developed and is available at: <http://www.cmu.edu/graduate/programs-services/maternity-accommodation-protocol.html>.

This document provides students and faculty guidance on the standard accommodations and financial options available to female students who anticipate giving birth to a child.

The Student Maternity Accommodation Protocol provides direction in three areas:

- Time away from academic responsibilities for a new birth mother either as a short-term accommodation or as a formal leave of absence,
- Financial resources including an interest-free student maternity loan, stipend continuation for funded doctoral students and tuition adjustments,
- University resources to support students, faculty and staff through the process of planning for the time away and support for the new birth mother.

Students are encouraged to consult with relevant university faculty and staff as soon as possible as they begin making plans regarding time away. Students must contact the Office of the Dean of Student Affairs to register for Maternity Accommodations. Students will complete an information form and meet with a member of the Dean's Office staff to determine resources and procedures appropriate for the individual student. Planning for the student's discussion with her academic contact(s) (advisor, associate dean, etc.) will be reviewed during this meeting.

The designated college contact for School of Architecture graduate students is Patti Pavlus, Assistant Dean for Business Affairs, College of Fine Arts.

# A

## GRADUATE STUDENT GRADING STANDARDS

The Graduate student Grading Standard, according to University Policy (as of Fall 1995) is as follows:

Grade	Quality Points	Notes
A+	4.33	
A	4.0	
A-	3.67	
B+	3.33	
B	3.0	Minimum for good standing
B-	2.67	
C+	2.33	
C	2.0	Minimum to be counted towards degree requirement
C-	1.67	
D+	1.33	
D	1	
R	0	Failure
X	0	Conditional Failure
S	Non-factorable	Satisfactory
P	Non-factorable	Passing
N	Non-factorable	Not Passing
O	Non-factorable	Audit
W	Non-factorable	Withdrawal
I	Non-factorable	Incomplete
AD	Non-factorable	Credit granted for work completed at another institution or by examination credit

# B GAME PLAN

## B.1 SAMPLE ADVISORY COMMITTEE

### Advisory Committee

*Chair:*

*Professor's Name  
School of Architecture, Carnegie Mellon University*

*Members:*

*Professor's Name  
Department Name, University Name*

*Professor's Name  
Department Name, University Name*

*...*

## B.2 SAMPLE LIST OF COURSES TAKEN/IN PROGRESS

### Completed Courses & Credits

*(excluding independent studies)*

Date	Course #	Course Title	Credits	Grade
F09	15-462	Computer Graphics	12	3.33
F09	21-259	Calculus in 3D	9	3.67
S10	48-721	Building Control & Diagnostics	12	4.0

### Courses in Progress

*(excluding independent studies)*

Date	Course #	Course Title	Credits	Grade
F10	48-749	Special Topics in CD	9	
F10	48-760	Advanced Computer Modeling	9	

### Independent Studies

Date	Course #	Course Title	Credits	Grade
F09	48-XXX	Independent Study	9	
S10	48-XXX	Independent Study	9	



### B.3 SAMPLE MILESTONES AND PUBLICATIONS

#### **Milestones**

<b>Milestone</b>	<b>Date</b>
Qualifying Exam	_____
Thesis Proposal	_____
Thesis Defense	_____

#### **Publications**

(List all publications here)

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- 
- 
-

## B.4 SAMPLE THESIS STUDY AREA

### Thesis Study Area

#### Introduction

Contemporary advances in computational technology and techniques have produced means of accurately predicting the performance of lighting that are affordable in terms of time and cost, factors that have hitherto been identified as limiting the application of computational simulations in architectural design. In terms the design of computational tools used in the building industry, research has shown that most contemporary tools do not provide adequate support for design processes.

By applying state-of-the-art computational techniques, together with assessments of the design process and corresponding informational demands, it is postulated that lighting simulation tools can be designed to assist architects in design. Though specific to the lighting domain, the proposed simulation tool demonstrates the principles of design support tools by providing accurate visualizations within time and resource constraints of architectural practice, adopts relevant metrics of performance to provide operative information succinct to informational demands of design decisions, complements the adaptive-iterative nature of investigative design, and aid design synthesis by allowing greater coupling and flexibility between various design activities.

#### Nature of Design

The areas of study include identifying the conditions and constraints of design in the context of architectural practice. Research has identified the design process to be adaptive-iterative, where problems are often ill-defined and designers adopt decomposing strategies together with explicit problem paradigms to manage complexity. This hypothesis of reducing cognitive cost to handle a multitude of possibilities in complex problems allow insight into the seemingly disparate design strategies of iterative partial problem-solution conjectures as well as insistence on maintaining singular solution concepts as long as possible, in spite of contradictions encountered. With regards to design synthesis, it has also been shown that there is significant correlation between novel design decisions and the transition between drawing, examining and thinking.

This understanding and further examination of design processes can suggest a new way of designing simulation tools. Rather than focusing the user on details that enables a simulation to be conducted, the tool should alleviate such demands and allow quick successions between drawing and examining. This can be achieved by identifying the relevant metrics of performance and delivering operative information quickly.

Features that address the management and comparisons between design alternatives can complement the comparative nature of iterative search in design. The fundamental strategy is thus one that reduces the overheads in enabling examinations in the tripartite description of design activities referenced earlier.

### **Constraints of Practice**

The second area of study attempts to allow the development of a useful tool by examining the conditions and constraints in architectural practices. There are general categories of design tasks throughout an architectural project, each with corresponding information requirements and resource constraints. This suggests the need for an adaptive tool or methods to manage the balance between accuracy and resource. Highly accurate models and algorithms may require excessive amounts of parameter definitions, computing resource and time. By identifying the range of practice conditions, we can establish levels of detail and accuracy at which the tool should operate at. Appropriate techniques such as automated statistical approximations, model and algorithmic simplifications or recycling solutions as estimates can be applied to address the varying objectives and resource constraints.

Other practical concerns affecting the deployment of simulation tools in architectural practice include how easy it is to learn and use the tool, how well the tool works with other popular software and protocols as well as the level of confidence users have of the simulation results with respect to using them in a professional context. Such concerns point to a need to address issues of usability, interoperability and validations.

### **Performance-Based Architecture**

It is generally accepted that contemporary architecture design has become increasing complex due to both a growing sophistication in consumer demand as well as advancements in scientific knowledge. The performance-based mandate proposes consideration of design from holistic standpoints, beyond traditional disciplinary or domain partitions, by focusing on the overall performance of the design. Following this agenda, simulation tools should complement the focus on achieving comfortable and enjoyable environments, rather than the established and often prescriptive list of domain parameters, often encapsulated in prescriptive building regulations. While a comprehensive demonstration of such performance-based approach necessarily include at least a multi-domain tool, a similar shift in approach can still be illustrated within a single domain.

The concept of a bi-directional feature could allow users to focus on the objective rather than specific parameters. This feature directs user effort in defining performance criteria and computation to augment the identification of possibly complex means in meeting the criteria. By doing so, the tool supports design as a search more than design as an optimization of parameters.

## Design Support Environment Framework

This section presents a rough outline of a lighting simulation environment for architecture design support. While in no way comprehensive of all the considerations pertinent to a design support tool, this outline illustrates the main issues to be discussed in the thesis.

There has been much debate over how software tools should be deployed, the main distinction between local versus network deployments. While this decision can be separate from the development of the core functionalities of software and allocated to a later stage, the considerations for effective use of limited computational resources, ease of management and features supporting distributed and collaborative use should be issues pertinent to the design of the tool.

Given that computational simulations are but part of a much larger design process, it is important to integrate it with other involved processes, thus the concept of a design support environment. This implies the use of common or similar semantics and protocols, allowing easy and efficient transitions between the many activities. Absent in contemporary situations, efforts such as middle-ware, interoperable data formats or consistent software user interfaces exist as stop-gap measures. While ideally the proposed simulation features should be designed as a package that can interface any modeling platform via industry standard data protocols, practical constraints may limit the feasibility of doing so. Nevertheless, the tool should capitalize on industry standards to reduce overheads, ease integration and provide a consistent working environment. This includes user interfaces, models of simulation processes and popular data format support.

Following the identification of suitable performance metrics such as illuminance distribution, type of illuminance (diffused vs. direct), luminance ratios (contrast), glare indices and extent of exterior views, the tool should adopt technical approaches based upon comprehensive fundamental principles that would give relevance to the results throughout the project. Excessive abstraction and rule-of-thumb methods should be avoided. The photon mapping method (Jenson 2001) holds particular promise.

To better complement the needs and constraints of practice, the tool should allow use at different levels of granularity, or level of detail (LOD). This might be achieved by offering different sets of user interfaces that automate and reveal parameters selectively, in response to particular needs at each design phase, without compromising the fundamental principles approach mentioned earlier. Since the general photon mapping is time and resource intensive, different techniques would have to be applied to achieve the desired performance of the tool. We can broadly categorize conditions that the tool would have to satisfy as: (1) quick investigations with similar global parameters, (2) detailed comparisons among limited alternatives, (3) accurate analysis of a particular design. Generally, there will be more time allocated to the

respective categories but modified by the type of design decision, if it is a high or low level design task. Higher level tasks such as planning usually enjoy more resources when compared to lower level tasks such as the determining the size of openings.

Given the categorizations, we might be able to apply specific techniques to moderate the resources required to implement the otherwise resource and specification intensive fundamental principles approach. For example, in high level tasks involving multiple quick investigations such as comparing massing strategies appropriate for the architectural program, a significant portion of the required parameters can be specified automatically by statistical means, thus reducing user effort. Since contextual lighting conditions would be similar between the alternatives, part of the lighting solutions can be reused, thus reducing the computational task and increasing the speed at which solutions are presented. By maintaining the same technical approach throughout various LOD, the results would remain relevant and also ease computation. For example, when a particular scheme is selected for detailed analysis, it might be possible that only certain components (such as the indirect lighting) have to be updated, or simply refined (additional iterations to refine the specular effects).

One of the challenges in designing the bi-directional feature is addressing the problem of ambiguity. Given a particular condition and a desired state, there may be a multitude of ways to achieve that state. For example, to increase the daylight availability in a partially designed space, any or a combination of alterations to the many variables including window location, size, shape and material of sunshade and interior reflectance may satisfy the objective. While techniques such as using preference-based weightings and explicit metrics such as construction cost or energy consumption may be useful, these approaches often contradict the explorative nature of design in searching for novel solutions. This consideration presents a dilemma; while techniques such as using empirical surveys to anticipate search behavior or the mentioned weighted metrics are effective at structuring, managing and speeding up complex search, they may undermine the value of the search itself in terms of design exploration. Care has to be taken in providing abstractions and subsequent metrics at appropriate levels so as to address both concerns.

Effectiveness in augmenting design is difficult to ascertain or quantify. Empirical testing and user surveys may be used to validate the hypothesis that a lighting simulation tool can be used to help develop designs.

## B.5 SAMPLE STORYBOARD

### Storyboard

#### **Use Case 1 – A low-level design decision on aperture sizing**

Designer specifies the location, and begins modeling the space, adding a window and light-shelf to a wall. He selects illumination distribution visualization and a false-color mapping of interior workplane illumination is superimposed on the model. The tool is able to simulate inter-reflections of the light-shelf accurately. The designer notices a glare problem. He manipulates the parameters of the window and the light-shelf while the tool presents the corresponding effects in real-time. The designer decides to make the highlight into a caustic feature on another wall rather than avoiding it. He specifies the new position of the caustic and preferences on which parameters to be affected. The tool presents alternatives that would achieve the desired effect.

#### **Use Case 2 – A high-level design decision on form**

Designer specifies the location and begins modeling the building form. Lighting effects including shading, inter-reflections specular reflections are presented in real-time. Designer is unsatisfied with the shading on a façade and unable to modify the façade to achieve his intentions. He selects lighting contribution visualization. A vector field representing the lighting contribution on that façade is superimposed on the model. He modifies several parts of the building to achieve what he wants.

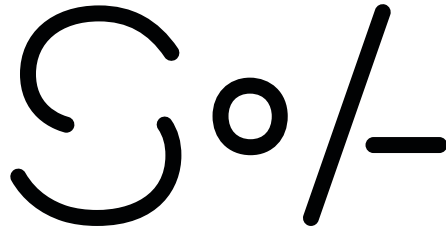
#### **Use Case 3 – Design Synthesis**

Designer wishes to design external sunshades. He studies the interior illumination, specifies acceptable ranges and confirms his choices after viewing high quality renderings of the space at such ranges. He specifies a volume outside the window as the physical bounds of the sunshade. The tool presents recommendations on transparency and reflectivity in a 3-D grid within the volume, which is updated as the designer begins to shape the sunshade. The designer eventually draws a sunshade that is too small causing the specified interior illumination to be exceeded, and the tool suggests changes to the window dimensions. The designer rejects the suggestion. The tool suggests a darker ceiling or carpet.

# C

## QUALIFYING EXAMINATION SIGN-OFF SHEET

School of Architecture  
College of Fine Arts



PhD Qualifying Examination

Carnegie Mellon University

STUDENT: \_\_\_\_\_

EXAM DATE: WRITTEN \_\_\_\_\_ ORAL \_\_\_\_\_

OUTCOME: PASS \_\_\_\_\_ FAIL \_\_\_\_\_

POST-CONDITIONS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

EXAMINATION PANEL:

\_\_\_\_\_  
NAME PRINCIPAL ADVISOR DATE

\_\_\_\_\_  
NAME DATE

\_\_\_\_\_  
NAME DATE

\_\_\_\_\_  
NAME OBSERVER DATE





# D

## PHD THESIS PROPOSAL SIGN-OFF SHEET

School of Architecture

College of Fine Arts

PhD Thesis Proposal



Carnegie Mellon University

STUDENT: \_\_\_\_\_

TITLE: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PROPOSAL DATE: \_\_\_\_\_

OUTCOME: PASS \_\_\_\_\_ FAIL \_\_\_\_\_

DOCTORAL COMMITTEE:

NAME \_\_\_\_\_ CHAIR \_\_\_\_\_ DATE \_\_\_\_\_

NAME [, AFFILIATION] \_\_\_\_\_ DATE \_\_\_\_\_

NAME [, AFFILIATION] \_\_\_\_\_ DATE \_\_\_\_\_

NAME [, AFFILIATION] \_\_\_\_\_ DATE \_\_\_\_\_