



## Polytechnic Institute

Master of Science in  
Computer Graphics Technology

Graduate Student Handbook

Assembled by  
the CGT Graduate Faculty  
in the Purdue Polytechnic Institute

West Lafayette, IN

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## Computer Graphics Technology M.S. Graduate Student Handbook

*NOTE: This document supersedes the Graduate School Policies & Procedures Guide and the Purdue Polytechnic Institute Graduate Handbook.*

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## **FOREWORD: HOW TO USE THIS HANDBOOK?**

This document is intended to clarify and emphasize the expectations that the CGT department has relative to the pursuit of graduate studies. You will find that content in this Handbook is similar to that of the college in most cases. Where there are differences, the Department of Computer Graphics Technology has typically established procedures and rules that fall within, or are more stringent than, those of the college. Especially with regard to credit hours, courses to be taken, and important milestones towards graduation, the policies and procedures in this document vary from that of the college. If you have questions about how to interpret what is in this Handbook, please consult with your major professor, the CGT Graduate Program Chair, or the Graduate Program Secretary.

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## SECTION 1. INTRODUCTION

This section provides an overview to general information concerning graduate study in Computer Graphics Technology.

### 1.1. **Mission**

The mission of the graduate program in Computer Graphics Technology is to prepare graduates for leadership positions in computer graphics professions and to advance the knowledge in the application and teaching of computer graphics through applied research, publishing, presentations, and teaching.

### 1.2. **Degrees**

Graduate study leading to the Master of Science in Computer Graphics Technology is offered through the Department of Computer Graphics Technology in the Purdue Polytechnic Institute at Purdue University. This degree program includes both a thesis and non-thesis option, and both options include elements of applied research, development, and production of computer graphics. Not all focus areas are eligible for the non-thesis option.

A “3+2” combined degree program is also available for outstanding undergraduates enrolled in their third year of study in the CGT Bachelor of Science degree program. The combined degree allows a student to obtain a B.S. and M.S. in CGT in five years. See Appendix A for these degree program guidelines.

A Ph.D. degree program is offered through the Purdue Polytechnic Institute, which has a more general technological focus. This program option allows opportunities for curriculum development and professional development in educational applications of computer graphics. A separate handbook provides detailed information for the doctoral program. It can be found at the following web address:

<https://polytechnic.purdue.edu/degrees/phd-technology/resources/forms-and-documents>

Specific information about graduate study in Computer Graphics Technology may be obtained directly from the Department of Computer Graphics Technology, 401 North Grant Street, Knoy Hall 363, Purdue University, West Lafayette, IN 47907. The telephone number is 1 (765) 496-6368. You may also visit us on the web at <https://polytechnic.purdue.edu/degrees/ms-computer-graphics-technology>

## SECTION 2. ADMISSION PROCESS

This section provides an overview of the requirements, types of admission, time limits and opportunities for financial assistance relative to graduate study in the Computer Graphics Technology.

### 2.1. Requirements

The Department of Computer Graphics Technology graduate committee reviews several important criteria in a holistic fashion when evaluating an application for graduate study in the CGT department. The following criteria are considered when reviewing an applicant's request for admission:

- *GRE Scores:* The committee looks at GRE scores in the context of the larger application. While there is no cutoff, we aim for scores in the 50<sup>th</sup> percentile or above.
- *Statement of Purpose:* This document should include the applicant's professional goals and objectives as they relate to applied research and advanced coursework in computer graphics. It should not appear that an applicant wants to simply take content similar to the CGT undergraduate curriculum and receive graduate credit for such work.
- *Diversity Statement:* Pursuant to Purdue University's vision for cultivating a diverse and inclusive community, the CGT Department asks all applicants to write a one-page personal essay explaining the applicant's experience(s) with diversity. What you include will vary depending on how these experiences have contributed to your personal and/or professional growth. As you prepare your personal statement, consider diversity through a broad lens that includes diversity in gender, race, ethnicity, geography, religious beliefs, marital status, parental status, age, education, physical and mental ability, income, sexual orientation, occupation, and language, among others. Three areas that might be included in a diversity statement are: 1) your values related to diversity, equity, and inclusivity; 2) your experiences with or as a member of a diverse or underrepresented population; and 3) as a graduate student, what you can bring to the graduate program to cultivate diversity, inclusion, and equity in the CGT Department at Purdue University.
- *Previous GPA:* There is no minimum GPA required for admission outside those set by the Graduate School at Purdue University and the Purdue Polytechnic Institute, which is 3.0 on a 4.0 scale. The CGT graduate committee uses a GPA of 3.2 as a goal for admission. A lower GPA will not disqualify a candidate but may lead to a more in-depth examination of the applicant in regards to the other admissions materials or it may lead to conditional admission.
- *Letters of Recommendation:* Letters of recommendation should come from at least three (3) people that can attest to the applicant's professional abilities, goals, and background as it relates to computer graphics. These letters should also speak to the applicant's professional maturity and academic ability. For applicants that

have been in the workforce for several years, positive letters of recommendation attesting to the candidate's knowledge gained while on the job are also helpful.

- *Professional Experience:* Consideration will be given for any internship, co-ops, or professional work experience and its relationship to the applicant's undergraduate degree program and the candidate's Statement of Purpose for admission to graduate school. Work experience that addresses any potential deficiencies in their academic background will be noted.
- *Nature of Academic Coursework:* Consideration will be given to the applicant's academic major and its inherent rigor. An applicant's profile should contain examples of proficiency within the CGT department's areas of core competency: creativity, technology, visualization, and communication. The CGT Graduate Review Committee may use this record as a guide for determining any potential conditions for admission related to coursework.
- *Graduate Core Competencies:* The applicant should appear to possess the ability to become proficient in the CGT department's graduate core competencies during their course of study. These include:
  - Research (investigate / explore via qualitative, quantitative or mixed modes of inquiry)
  - Methodology (procedures / logic / structure)
  - Application (of knowledge and skills)
  - Leadership potential
- *Portfolio Samples:* The applicant should provide at least four (4) examples of their work, and the work should be presented in a professional manner and of the highest quality. The samples presented should emphasize the applicant's area(s) of interest.
- *Writing Sample:* The writing sample should exhibit the applicant's ability to develop a coherent and concise thought process, and it should ideally emphasize the applicant's area(s) of interest. The writing sample should be written at a level beyond the Statement of Purpose, such as a term paper, a conference article, or a journal article.
- International applicants that have not previously earned a degree from a US institution must also submit TOEFL or IELTS scores. The CGT department requires a combined TOEFL score of 90 or greater or a combined IELTS score of 7 or higher.

The graduate review committee reviews only complete application packages. If an application is missing materials, it will not be reviewed.

Admission recommendations from the CGT Graduate Review Committee may be one of the following:

- Admit without conditions,
- Admit with conditions (and these conditions must be specified), or
- Deny.



## **2.2. Conditional Admission**

Occasionally, a student who does not meet the standard for unconditional admission may be recommended for conditional admission, provided evidence is presented (e.g., a high performance on the Graduate Record Examination or a strong professional portfolio) which indicates that the student's potential for success is not adequately reflected in their academic record.

An applicant having interest in the computer graphics discipline may not have the technical, artistic, or mathematical foundations necessary to go directly into the graduate program.

A prospective applicant for study in CGT that does not have formal education, training, or relevant experience in computer graphics may be required to complete prescribed **undergraduate** courses in CGT as part of their graduate study requirements as directed by the CGT Graduate Committee. Such courses **will not** be available for use on the master's degree plan of study and must be taken **before** enrolling in graduate-level computer graphics courses.

Conditional admission requires that certain minimum performance standards be established, such as "must achieve at least a 3.00/4.00 graduate index at the completion of the first twelve (12) credits following admission to the master's degree program." Any conditions placed on the applicant's acceptance into the program will be monitored by the student's major professor and the CGT departmental Graduate Secretary. If these conditions of acceptance are not met, actions will be taken by the CGT Graduate Committee to place the student in probationary academic status. Such status will also be communicated to the Graduate School such that each semester the Graduate School will remove the eligibility to register for future sessions for all students who failed to satisfy their conditions of admission in the previous session. (Thus, there is a grace period of one semester). **Failure to improve academic performance once placed on probation will result in the dismissal of the student from the CGT graduate program (see section 3.0 for information regarding probation and dismissal).**

The CGT department will justify and indicate any conditions under which a student should have his or her eligibility to register restored allowing continuation of degree study. The justification is requested by a memo from the chair of the CGT Graduate Program and routed through the Graduate Secretary, detailing reasons why the student should be permitted to continue. Upon Graduate School approval, the eligibility to register will be restored.

## **2.3. Deadlines**

The deadlines for completed applications are shown in Table 2.1. Not all focus areas will admit students to start in every term.

Table 2.1. Deadlines for Graduate Program  
Application.

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Fall – February 1  
Spring – September 1

#### **2.4. Time Limitation**

A candidate for the master's degree must complete all requirements for the degree **within five years** from the completion of the oldest course on the plan of study.

#### **2.5. Financial Assistance**

The following two sections describe the availability of financial assistance and information about assistantship appointments.

##### **2.5.1. Availability**

A limited number of graduate teaching and research assistantships within CGT are available. All teaching assistantship applications are to be directed to the CGT Department Head using the form on the program website:  
<https://polytechnic.purdue.edu/degrees/ms-computer-graphics-technology/funding>  
Inquiries about availability of research assistantships (RA) are to be addressed directly to CGT faculty.

Additional appointments may be available from other departments of the University, such as the Information Technology at Purdue (ITaP), the library system, and student housing. Details on graduate fellowships might be found on the Purdue University Graduate School website <https://www.purdue.edu/gradschool/funding/>.

##### **2.5.2. Assistantship Appointments**

In order to provide opportunity for students to progress satisfactorily toward their degree objective, graduate appointments will ordinarily be for no more than one-half time (20 hours/week) and for a maximum of two (2) academic years for M.S. students and three (3) academic years for Ph.D. students. Renewal of graduate appointments for additional time will be based on satisfactory performance in the position and academic performance toward plan of study requirements, as well as availability of positions.

Teaching assistantships (TA) and research assistantships (RA) include a tuition waiver during the semester the student has been awarded the assistantship. Teaching assistantships are not typically available in the summer. However, if a student has a teaching assistantship in the spring and the following fall semester, a tuition waiver for the summer is still available to the student.

***NOTE:** Assistantships DO NOT cover the cost of student fees assessed each semester.*

In order to be eligible to be considered for an assistantship, complete the following steps:

1. Fill out the application (<https://tech.purdue.edu/degrees/ms-computer-graphics-technology/funding> in upper right hand corner)
2. Submit on or by: April 1<sup>st</sup> for Fall semesters and October 1<sup>st</sup> for Spring semester. Continuing GTA's are not required to submit another application.
3. Please submit to the Graduate Program Secretary on or before dates above.
4. All International students applying for a teaching assistantship are required by the

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University to take the Oral English Proficiency Test (OEPT) before an assistantship can be granted. Please contact the Graduate Program Assistant with any questions.

5. Students applying for the Spring semester should expect to hear back about TA assignment decisions by the end of December, students applying for the Fall semester should expect to hear back about TA assignment decisions by the end of July. However, decision dates are subject to change.

New and continuing Graduate Teaching Assistants are required to be on campus one week prior to classes starting as you will be in pay status. You will be required to attend the Departmental, College and University meetings.

Assistantships are not guaranteed as it is dependent on the course needs of the department. Please note that if a TA's class schedule conflicts with the TA's teaching assignment the TA might need to rearrange their class schedule in order to retain the teaching assistantship.

### **2.5.3. Terms and Conditions of Assistantships**

1. The Graduate Student must remain in good academic standing. A student will not receive an assistantship if they are on probation.
2. Student must receive a positive performance evaluation.
3. If the student is an international student, they must pass the OEPT (Oral English Proficiency Test) before being considered for a position.
4. Students receiving assistantships are required to be on campus the Monday prior to classes starting and are to stay on campus until the Tuesday after finals week, every semester.

### SECTION 3. POLICY ON MONITORING, PROBATION, AND DISMISSAL

This section provides an overview to the monitoring, probation, dismissal and appeal policies in the department of Computer Graphics Technology.

#### 3.1. Minimum Cumulative GPA Requirements (in graduate courses)

The department of Computer Graphics Technology has a specific GPA requirement for graduation as shown in Table 3.1, which is the same as the university requirement. Also shown are the GPA requirements for probation and dismissal relative to the department's programs. Sections 3.2 thru 3.5 outline the policies and procedures relative to probation and dismissal.

Table 3.1. Graduation, Probation and Dismissal GPA Thresholds

Graduation	3.00/4.00
Probation	2.75/4.00
Dismissal	2.50/4.00

**NOTE:** University requirements state that no grade of “D” or “F” is allowed in a course on the plan of study. Any plan of study course in which a grade of “D” or “F” is received must be repeated and completed successfully; it cannot be dropped from the plan of study. In addition, in the Computer Graphics Technology department, any course in which a grade lower than “B” is received cannot count towards a student's plan of study requirements.

#### 3.2. Monitoring

Each semester graduate student performance is evaluated to ensure that the student is performing well and will graduate with a 3.00/4.00. Procedurally, this is done in the following way:

- Graduate student grades and academic progress will be monitored at the CGT's Office of Graduate Studies.
- Monitoring will begin after six (6) credit hours have been attempted and every semester thereafter in which the student is enrolled.
- Students are expected to maintain a cumulative grade point average of at least 3.00 /4.00 with no grade less than “B” and earn grades of “Satisfactory” in thesis research credit hours.

***NOTE:** Purdue policy permits the optional use of whole letter grades or + or -. Please be aware of the negative affect on grade such as a B-. The grade “B-” (B minus) is below the expected grade graduate student should earn in their courses, and will make the course ineligible for inclusion on the student's plan of study.*

If a student has a semester GPA less than 2.75/4.00 or a cumulative GPA less than 3.00/4.00, a letter will be drafted by the Chair of the CGT Graduate Program to the student, with a copy to the major professor, to the CGT Department Head, to the

Graduate School, and to the student's file, indicating the last semester was determined unsatisfactory and that they are being placed on probation.

***NOTE:** Graduate students that receive an incomplete in a course will have one semester and 12 weeks into the following semester to complete the course. If that is not done, the Registrar will automatically convert the grade to an "F."*

### **3.3. Probation**

Probation occurs when a student performs below the CGT standards in an individual semester. Procedurally probation means:

- If a student's **semester** GPA falls below 2.75 or if a student's **cumulative** GPA falls below 3.00/4.00, the student will be placed on academic probation.
- The CGT Graduate Studies Office will generate a letter informing the student, major professor, and department head of the probationary status. A copy will also be forwarded to the Graduate School and placed in the student's permanent record.
- **The student will have one semester to raise their cumulative GPA to the required level and return to good standing.** If they do not, they will not be able to register for classes the subsequent semester and will be dismissed from the program.
- While on probation, students are ineligible for a CGT assistantship.

### **3.4. Dismissal**

1. If a student's **semester** GPA is below a 2.50 or if a student's **cumulative** GPA falls below 2.75, the student will be immediately dismissed from the program.
2. A student will be dismissed from the program if they remain on probation for one consecutive semester without improvement. This policy is independent of any assistantship the student may hold.

### **3.5. Appeal**

1. A student may appeal their probationary or dismissal status by contacting the CGT Graduate Studies Office in writing within thirty (30) days of the date of the requisite notification letter. The appeal should include the student's specific reasons for exception to the aforementioned policies.
2. The appeal will be reviewed by a subcommittee of at least three (3) members of the CGT Graduate Committee, chaired by the CGT Graduate Program Head.
3. If the review committee recommends reinstating the student, the student's graduate advisor/chair must approve. If the graduate advisor does not approve, the CGT Department Head will render a final decision.
4. In cases where a student is reinstated without approval of the graduate advisor, a new advisor may need to be assigned.
5. The decision of the appeal subcommittee and/or CGT Department Head will be considered final and will be delivered within thirty (30) days of the student's request for exception to probation.

## SECTION 4. MASTER'S DEGREE PROGRAM STRUCTURE

Typically, the Master of Science in CGT degree requires that each student complete the requisite number of courses and successfully execute a thesis or capstone project. For thesis-based programs, the proposal of the thesis will typically occur in the next to last semester of study (but this can vary). For non-thesis-based programs, the capstone project can be taken as a course in the final semester of study, or as two courses, one in the next to last semester and one in the last semester of study. For additional information regarding the capstone project, we encourage students to contact the CGT faculty area leads.

As a process, the Master of Science experience includes:

1. Coursework (30 credit hours)
  - a. Appointment of major professor
  - b. Filing of the Electronic Plan of Study (EPOS)
    - i. Draft of the Plan of Study must be submitted by the end of the first semester of study.
    - ii. A final Plan of Study must be submitted by the end of the second semester of study.
  - c. Successful completion of all courses
2. Thesis (6 credit hours; only for thesis-based programs)
  - a. Selection of a committee (two people in addition to a chair)
  - b. Thesis proposal and proposal defense meeting
  - c. Obtain appropriate certifications for research (CITI, HIPAA, FERPA, etc.).
  - d. Execution of thesis
  - e. Final oral defense of thesis
3. Capstone (6 credit hours; only for non-thesis-based programs) – [More than 6 capstone credit hours can be taken by the student but only 6 credits can be counted toward the plan of study]
  - a. Successful completion of a major project with a substantial evaluation or research component

### **4.1. Program Credit Hour Requirements**

The master's degree program administered through the department of Computer Graphics Technology requires a minimum of 30 credit hours of course work and six (6) hours of thesis research (CGT 698-00) or a capstone project (CGT 597-00). For thesis-based programs, the thesis must be defended through a public oral defense and examination meeting with the faculty advisory committee and any other interested parties. For non-thesis-based programs, the capstone project will be reviewed by a faculty jury.

### **4.2. Residency Requirements**

The total number of hours of academic credit used to satisfy residency requirements consists of all course credit hours that appear on the plan of study, other graduate course credit hours with grades of "C" or better that appear on the Purdue transcript, and research credit hours with grades of "S" that appear on the Purdue transcript. In fulfilling these requirements, a maximum of 18 credit hours will be allowed from any one semester

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(maximum hours are proportional to length of summer session equals nine (9) credit hours).

#### **4.3. Appointment of a Major Professor/Advisor**

Each graduate degree plan of study is unique to the individual student and their background, experience, and degree objectives. To guide in the development of a degree plan, a major professor (advisor) will be appointed to chair the student's advisory committee and will assist the student through the program. A student may request a major professor in their application materials; but this request may not always be possible. Advisor assignments are made based on advisement load, research commitments, and other factors. The major professor will become the most important contact person, and the major professor/student relationship must be a mutually acceptable one. The major professor serves concurrently as advocate, mentor, and supervisor of the graduate student.

*NOTE: A student may change major professor if their research topic changes significantly as a result of their course of study.*

#### **4.4. Graduate Advisory Committee**

Each thesis-based student, with assistance and approval from the major professor, is responsible for establishing an advisory committee for their program. The duties of this committee are to advise the student in the preparation of the plan of study and to offer advice and assistance during the period of graduate work.

The committee consists of the major professor, one other member of the CGT graduate faculty, and a third advisor who may be a member of the CGT graduate faculty, or from another relevant department. All members of the committee must be a member of the Purdue University graduate faculty. Members of the committee need not be faculty with whom the student has taken course work. However, in practice this is usually the case. The request for appointment of the advisory committee is made on the same form (GS Form 8), and at the same time, as the request for approval of the student's plan of study (refer to SECTION 5). In addition, each graduate student is encouraged to explore other areas outside the Purdue Polytechnic Institute as it relates to their professional goals and development.

The advisory committee is selected and established **once the student has a firm idea of their potential research direction**. This typically occurs in the first semester or second semester. The committee will then be in place to help the student develop the plan of study and review and approve the student's thesis proposal, which must be approved before actual work on the project or research may begin.

*NOTE: The thesis proposal must be approved prior to the semester the student intends to graduate.*

The student should discuss the plan of study with the selected advisory committee members and must get their permission to list them on the plan of study before the plan is submitted to the CGT Graduate Studies Office. Should the need arise; changes in the advisory committee after the plan of study has been submitted will be handled on an individual basis through the Electronic Plan of Study form (EPOS).

#### **4.5. Course Load Recommendations and Requirements**

The maximum course load for graduate students is 18 credits (and occasionally 19 credit hours with special permission). However, a typical course load is 9–12 credits, which translates into 3–4 courses. Eight (8) credit hours is considered the full-time certification standard for graduate students by the Graduate School.

***NOTE:** To maintain full time status, international graduate students must take eight (8) credit hours per semester.*

Most students inquire as to how many classes they should take when they have an assistantship. Table 4.2 provides some recommendations as to how many credit hours are typical when also working as a teaching or research assistant.

Table 4.2. Recommended Course Loading for Assistants

<b>Assistantship Load</b>	<b>Recommended Course Load</b>
1/4-time assistant	9 to 12 cr. hrs.
1/2-time assistant*	6 to 9 cr. hrs.

\*Assumes 1/2-time is equivalent to 20 working hours.

***NOTE:** A candidate for the master's degree is expected to complete all requirements for the degree within five years from the completion of the oldest course on the plan of study.*

#### **4.5.1. Reduced Course Loads for International Students**

To maintain visa status, international students must maintain a fulltime load. Purdue's Office of International Students and Scholars (ISS) provides information about this requirement and offers a means for international students to request permission to take a reduced course load. Appendix B provides a visual example of the form. Graduate students desiring a reduced course load should work with ISS to request this before their course load is reduced below that required by U.S. Immigration rules. See the ISS web site for more information: <http://www.iss.purdue.edu/>.

#### **4.6. Registering for Courses as a Graduate Student**

Purdue University provides online scheduling of courses for all of its students via the *myPurdue* system. The software used for this system is called *Banner*. Typically, the student works with their advisor to determine the appropriate courses to take for a given semester. Then the student works with the Graduate Administrative Assistant in CGT to sign up for courses. Typically, students can self-register. A registration PIN number is required to perform self-registration. You will be informed of your PIN number at the time of admission from the CGT Graduate Office. However, at times students may need an 'override' to be able to register for certain courses. More information about registering for classes can be found at the Registrar's web site: <http://www.purdue.edu/registrar/> (see *Registration Procedures*).

**It is the graduate student's responsibility to keep track of specific dates relative to**



**course scheduling.** These include deadlines for registration, deadlines for dropping courses and the like. The Graduate School announces these dates on its web site and typically the deadlines are emailed to students each semester at appropriate times.

#### **4.7. Dropping and Adding Courses**

To drop or add a course, the student uses the *myPurdue* system. Changes in variable credit courses will require the CGT Graduate Office to enter the changes. The Graduate Office must also set the desired credit hours (when a student enrolls, the default is one (1) credit hour). Subsequently, be sure to confirm that a dropped or added course has been officially recorded by checking *myPurdue*.

Courses dropped during the first two weeks of classes will not appear on your permanent record. Courses dropped during weeks three and four will be recorded as a “W” grade on your permanent record (withdraw). Courses dropped during weeks five through nine require the signature of both the instructor and the CGT Graduate Chair. In such a case, the instructor must assign a grade of “W,” “WF,” or “WN.” Week nine (9) is the final deadline for withdrawing from a class.

***NOTE:** A “W” simply records the fact that the student withdrew after the second week of the semester. A “WF” records that the student was failing a dropped course. “WF” grades are not included in computing the GPA. A “WN” records failing status in a course being taken Pass/No Pass. “W,” “WF,” and “WN” grades are recorded on your permanent record.*

Courses added during weeks two through four require the approval and signature of the instructor and the CGT Graduate Program Chair. Courses may be added during weeks five through nine, but only under extraordinary circumstances. Courses added after the fourth week require the approval and signature of the instructor, the CGT Graduate Program Chair, and the head of the department where the course is offered (for non-Polytechnic courses).

***NOTE:** Graduate students that receive an incomplete in a course will have one semester and 12 weeks into the following semester to complete the course. If that is not done, the Registrar automatically converts the grade to an “F.”*

## SECTION 5. ELECTRONIC PLAN OF STUDY REQUIREMENTS

The philosophy of the Graduate School of Purdue University is that advanced study should be tailored to the individual and their professional and intellectual objectives. Thus, the plan of study is unique to each student's needs and desires. To facilitate such an individually tailored program, each master's degree plan of study consists of a primary area and one or more related areas. Both the primary area and the related area(s) are based on the relationship of the course content and not on the departmental course prefix.

The development of the plan of study begins as part of the initial course registration. The major professor will discuss the student's background, interests, and degree objectives as part of the preparation for the first enrollment. The major professor will also recommend possible related areas and advisors.

In addition to coursework requirements, all thesis-based students must complete and successfully defend a research project known as a Thesis (CGT 698-00 Research MS Thesis). The plan of study should be developed to support this research requirement. For non-thesis-based students, a capstone must be completed (CGT 597-00 Directed MS Capstone) that includes substantial design, evaluation, and research components.

The plan of study must list all courses the student will take to meet the degree requirements. These include the names for the primary and related areas of study; the course number, course title, and credits for each course; the date when the course was or will be completed; and the research area. Research credits are listed in the notes field of the EPOS, while the capstone course for non-thesis-based students will be listed on the as a regular course. Be sure to review the CGT Plan of Study Checklist to verify completeness of your EPOS before submitting it in final form.

The plan of study is electronically approved by each member of the advisory committee and the student. After review, the plan is electronically approved by the CGT Graduate Studies office. The plan is then submitted to the Graduate School for formal approval. After an approved Plan of Study is on file, committee and course changes can be made at any time up until graduation. This can be accomplished by clicking on the Create Change Request link available next to an Approved plan of study. The Change Request link will initiate a Change Request form. These procedures all occur electronically via the EPOS system. Upon approval by the Graduate School, the plan of study becomes a contract among the student, the CGT department, and the Graduate School. When all requirements of the plan of study are completed satisfactorily, the student is awarded the Master of Science (M.S.) degree.

***NOTE:** If a course in the plan of study is not available when the student needs it, or if the direction of the student's research topic changes, students can submit an EPOS change of plan of study. Once filed, the change request requires prior signatories to approve the requested change.*

### **5.1. Plan of Study Guidelines**

The MS degree in Computer Graphics Technology is highly flexible, allowing for

coursework to be taken both within CGT and across other graduate programs on campus. The plans of study below indicate the courses required to complete the MS degree with a thesis or non-thesis program, along with the semester in which these courses are typically taken. Each plan of study must include courses in the following areas:

**Primary Area**

- Core Course (3 cr.)
- Methods Courses (6 cr.)
- Focus Area Courses (9 cr.)

**Related Area**

- Non-Focus Area Course (within CGT) (3 cr.)
- Graduate Electives (9 cr.)

**Thesis or Capstone**

- Research Credits (6 cr.) or Directed Capstone (6 cr.)

Table 5.1. Sample Plan of Study for Thesis Students

1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester
CGT 501-00 (1 cr.) CGT Focus Area Course (3 cr.) CGT Focus Area Course (3 cr.) CGT Focus Area Course (3 cr.)	CGT 501-00 (1 cr.) CGT Non-Focus Area Elective (3 cr.) CGT or other related area course (3 cr.) STAT 501 or equivalent (3 cr.)
3 <sup>rd</sup> Semester	4 <sup>th</sup> Semester
CGT 501-00 (1 cr.): CGT Seminar CGT or other related area course (3 cr.) STAT/MA or TECH 646-00 or TECH 697-00 (3 cr.) CGT 698-00 (2 cr.) Research MS Thesis (defend proposal)	CGT 698-00 (4 cr.) Research MS Thesis (defend thesis) CGT or other related area course (3 cr.) <b>**Registered as a Candidate</b>

Table 5.2. Sample Plan of Study for Non-Thesis Students

1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester
CGT 501-00 (1 cr.) CGT Focus Area Course (3 cr.) CGT Focus Area Course (3 cr.) CGT Focus Area Course (3 cr.)	CGT 501-00 (1 cr.) CGT Non-Focus Area Elective (3 cr.) CGT or other related area course (3 cr.) STAT/MA or TECH 646-00 or TECH 697-00 (3 cr.)
3 <sup>rd</sup> Semester	4 <sup>th</sup> Semester
CGT 501-00 (1 cr.): CGT Seminar CGT or other related area course (3 cr.) STAT 501 or equivalent (3 cr.) CGT or other related area course (3 cr.)	CGT 597-00 (6 cr.) Directed MS Capstone <b>**Registered as a Candidate</b>

## **5.2. Primary Area**

All plans of study will have a primary area focused in Computer Graphics Technology. The plan of study requires 36 semester hours, including the six (6) semester hours in CGT 698-00 Research MS Thesis or CGT 597-00 Directed MS Capstone. A minimum of 15 semester hours must be taken in courses from CGT. The primary area for the Master of Science in Computer Graphics Technology must include the following courses (or acceptable equivalents):

### **Core Course (3 cr.)**

- CGT 501-00 (3 cr.) Seminar in CGT

### **Methods Courses (6 cr.)**

- STAT 501-00 (3 cr.) Experimental Statistics I  
(or equivalent; e.g., IT 507-00, STAT 511-00, PSY 600-00)
- TECH 646-00 (3 cr.) Analysis of Research in Industry and Technology  
or TECH 697-00 (3 cr.) Qualitative Research Methods in Technology  
Studies or a graduate course in MA/STAT (3 cr.)

### **Focus Area Courses (9 cr.)**

- CGT focus area courses (9 cr.)

Courses included in the primary area should be selected to enhance the career goals of the student. Methods Courses should be selected based on the student's research area, the nature of their program (thesis v. non-thesis), and relevant professional goals. Focus Area Courses should be chosen in consultation with the student's academic advisor. Undergraduate courses (300- or 400-level) may not be included in the primary area of the plan of study.

## **5.3. Related Area**

The related area must include a minimum of three (3) credits of coursework within CGT but in an area different from the student's focus area. The remaining nine (9) credits may be taken within or outside of CGT, at the direction of the student's advisor. In some cases, there may be two related areas, if such a plan will enhance the student's professional goals. Examples of related areas on plans of study include: Management, Instructional Design, Art & Design, Curriculum and Instruction, Landscape Architecture, Civil Engineering, Industrial Engineering, Human Factors, Kinesiology, Theatre, and Perceptual Psychology, or one of the disciplines within the Purdue Polytechnic Institute (e.g., MET, CIT, BCM, etc.).

### **5.3.1. Undergraduate Credit in a Related Area**

A related area may include undergraduate courses (300- or 400-level) **only when followed by appropriate 500- and 600-level courses** and are subject to the approval of the student's advisory committee and the CGT Chair for Graduate Studies. Undergraduate courses listed in the related area must be in excess of the baccalaureate degree requirements. Graduate School policy stipulates that 100- and 200-level courses may not

appear on a plan of study and that no more than six (6) semester hours of 300- and 400-level courses may be applied to graduate work and a grade of "B" or better is required.

#### **5.4. Credit Limitations**

The combination of undergraduate excess credit, transfer credit, post-baccalaureate registrant credit, and independent study credit included in a Master's Degree plan of study must not exceed 15 semester hours. These credit categories are defined as follows.

***NOTE:** For students obtaining two M.S. degrees, a maximum of nine (9) Purdue credit hours (at the 50000- and 60000-level) are allowed to overlap between coursework required in the two degrees.*

##### **5.4.1. Undergraduate Excess Credit**

Undergraduate students attending Purdue University who have time available to take courses in excess of their undergraduate degree course requirements may earn a maximum of 12 semester hours of credit in 500- and 600-level courses which were taken and declared as graduate work on Registrar's Form 350 at the time that grades were filed for that semester. Undergraduate excess credit will be certified by the Registrar only if the student:

1. Took the course during the senior year;
2. Received a grade of at least "B" in the course;
3. The course was designated as a graduate course; and
4. The student's work in the course was performed at the level required for graduate students in the course.

##### **5.4.2. Transfer Credit**

A maximum of half the required course credit hours completed at another institution may be included in the Master's Degree plan of study. Graduate School policy states that transfer credit will be allowed only for courses in which a grade of "B" or better was obtained. A catalog description of the course and an official transcript showing completion of the course and the grade received must be submitted with the plan of study.

##### **5.4.3. Post-Baccalaureate Registrant Credit**

The Graduate School has created an enrollment category known as "post-baccalaureate registrant" to enable those who have a Bachelor's degree to enroll in courses that are considered appropriate to the registrant's personal objectives. A limited amount of credit earned in this category is available for inclusion on a plan of study at the discretion of the advisory committee, the recommendation of the Associate Dean for Graduate Studies and the approval of the Graduate School.

A maximum of twelve (12) semester hours of graduate credit earned as a post-baccalaureate registrant may be included in a plan of study; no post-baccalaureate course in which a grade of less than "B" was earned will be permitted on the plan of study.

***NOTE:** The sum of credits earned as undergraduate excess credit and in post-baccalaureate registrant status that may be used on a plan of study is limited to 12 semester hours.*

#### **5.4.4. Independent Study Credit**

A maximum of six (6) semester hours of independent study credit (e.g., CGT 590-00, CGT 519-00, or EDCI 590-00) may be included in a plan of study. Registration for independent study courses will be permitted **only after the plan of study is initiated.**

#### **5.5. EPOS Acknowledgement of Thesis Requirement**

When completing the EPOS, CGT 698-00 is not shown in the list of courses. Instead, this course (and associated credits) is acknowledged in the notes field. For example, the notes field may include the following:

*“The student will complete six (6) credit hours of CGT 698 to satisfy the thesis requirement.”*

#### **5.6. Examination Requirement**

Each thesis candidate must pass a final oral examination in order to graduate. The final oral examination is considered public and is taken during the session in which candidacy is declared. The candidate's examining committee will conduct the examination and evaluate mastery of content related to the plan of study. A second purpose of this oral examination is for the student to defend the thesis. The final oral examination must be scheduled through the CGT Office of Graduate Studies no less than three weeks prior to the date of the examination. If the student's performance is not acceptable in one or more areas, the examining committee will specify what the student must do in order to eliminate any deficiencies.

Each non-thesis student must successfully complete a capstone project in CGT 597-00, which will be formally reviewed by a focus area-specific committee of faculty jurors appointed by the CGT Graduate Committee. The examination decision will be based on a portfolio of student work and the capstone project in CGT 597-00. The student's assigned advisor will represent the student as a juror on this committee.

#### **5.7. Examining Committee**

For thesis students, an examining committee will normally include the members of the student's advisory committee. Additional members may be appointed by the CGT Graduate Program Chair. The advisory committee chairperson (the major professor) may recommend additional members for appointment.

For non-thesis students, a focus-area specific jury will be appointed by the CGT Graduate Committee.

#### **5.8. Publication Requirement**

Scholarship plays a very important role in the preparation of M.S. and Ph.D. students in the Purdue Polytechnic Institute. Graduate students need to understand the role of scholarship in higher education as well as its importance in disseminating new

knowledge. CGT values the role and contribution of its faculty and students in its efforts to engage in discovery with impact. It is important that graduate students learn how to create and present scholarship as part of their academic training. For these reasons, CGT requires all M.S. thesis students to engage in scholarship by *submitting* one of the following prior to graduation:

- Refereed or reviewed journal article
- Refereed or reviewed trade journal article
- Refereed or reviewed conference presentation
- Reviewed conference poster

Exceptions to the above requirements must be approved by the student's committee chair and the CGT Graduate Program Chair. Other forms of scholarship may be considered in substitution of the above at the discretion of the CGT Graduate Program Chair.

### **5.9. Recommended International Experience**

Sources cite many benefits of study abroad programs for both graduate and undergraduate students, as well as faculty, within the university environment. In addition to learning about globalization and related issues, the experience of short-term study outside the US, conducting international presentations, and leadership or involvement in international projects or project teams can have a positive professional effect on students. Purdue is a global institution and in the Strategic Plan one of the three major goals is "Meeting global challenges by enhancing Purdue's presence and impact in addressing grand challenges of humanity". For these reasons, an international experience is recommended for all graduate students in the Purdue Polytechnic Institute.

It is recommended that M.S. and Ph.D. students in the Purdue Polytechnic Institute participate in one of the following:

- Enrolling in one graduate level course dealing with globalization, internationalization, or culture (examples: ECON 534, EDCI 685, EDST 504, FR 581, GER 581, HK 581, JPNS 543, MET 527, MGMT 601 or 649, OBHR 650, OLS 578, POL 530, RUS 581, SPAN 682).
- Participate in a short-term study abroad course
- Present a paper at an international conference outside the U.S.
- Participate in an international industrial project that requires travel abroad or interaction with international participants

## **SECTION 6. REGISTRATION FOR AN INDEPENDENT STUDY COURSE (CGT 590-00 or CGT 690-00)**

Independent study courses are only allowed if they (1) supplement existing courses in the curriculum with deeper study in a subject area, (2) delve into topics not currently covered in the CGT curriculum, or (3) work on specific developmental projects that are designed to extend the student's knowledge in a particular area. In all cases the course requirements must equate to the required effort that justifies the level and credit provided by the course. An independent study cannot substitute for an existing, permanent CGT course. A maximum of six (6) credit hours of independent study are permitted on any program plan of study. Additionally, independent study courses should not repeat, nor be used for remediation of, content already covered in other existing courses. Independent studies must be reviewed and approved by the student, course instructor, student's academic advisor/chair, the graduate committee (for graduate students) before the start of the semester in which the independent study is to begin. Lastly, graduate students must have an approved plan of study on file to be eligible to enroll in an independent study course.

Registration in CGT 590 or CGT 690 may not be initiated until all of the following procedures have been satisfied. (Note CGT refers to the departmental prefix code.)

***NOTE:** CGT 690 is limited to doctoral plans of study only and can only be offered by faculty holding an earned doctorate.*

### **6.1. Process**

For an independent study, the student and instructor must fill out an independent study authorization form containing a description of the study, the learning objectives, the assessment methods, and a 16-week schedule of activities (with milestones or deliverables) and respective due dates. The student, course instructor, and student's academic advisor/chair signs the form and provides it to the graduate committee. The form must then be reviewed and approved by the committee. The chair of the graduate committee then signs the form giving either approval or denial of the request. If the request is denied by the committee, the committee chair returns a copy to the student's academic advisor/chair for record keeping and conferral with the student. If the request is approved by the committee, the committee chair provides the form to the department head. The department head has final approval authority. After approving or denying the form, the department head signs the form and returns a copy to the student's academic advisor for record keeping and conferral with the student. Only upon department head approval is a student allowed to be enrolled in an independent study course. The entire independent study process must be completed prior to the start of the semester in which the independent study is to begin.

### **6.2. Procedural Requirements**

To enroll in an independent study the student must:

1. Obtain an independent study authorization form from the CGT Graduate Studies web site: <https://polytechnic.purdue.edu/degrees/ms-computer-graphics-technology/resources/forms-and-documents>. This form is a request for permission to



2. Meet with their professor to discuss their proposed study and secure their approval for the envisioned project.
3. Incorporating the professor's input, prepare a detailed project prospectus (typed; use APA format, title page), including the following indicated sections:
  - a. Problem: Define the rationale and delimit your problem area (explain your interest in pursuing the project, why this area is of concern to you). How does this project relate to your degree objectives?
  - b. Purpose and Objectives: What do you hope to accomplish? Provide a physical numbered listing of all objectives you expect to accomplish.
  - c. Procedures: Explain the methods you expect to use and any unusual requirements for materials, equipment, or facilities. A graphical time line and two progress reports from the student must be submitted by the student to the professor in charge between weeks three and ten of the semester. Specifically, indicate key deadline dates for each progress report and deliverable. Provide a narrative, flow chart, or outline of step-by-step procedures used to complete this study. If applicable, provide a supply and material cost worksheet.
  - d. Outcomes: What will be the tangible results (deliverables, i.e., software source code, papers, reports, products, or summaries) of your study? Who will receive copies (office, professor, co working professor, and student)? Will you conduct a formal presentation of your results?

***NOTE:** This prospectus should be 2-3 pages in length. A good way to prepare a prospectus is to subhead it using the above categories and present the information below each subheading.*

- e. 16-week outline: The 16-week outline should include a week-by-week listing of any meetings, milestones or other deliverables, along with associated due dates, that the student will undertake.
4. Meet with your professor in charge to discuss and refine your project prospectus.
  5. Revise the prospectus as necessary. Complete the independent study authorization form; attach it to the front of the prospectus; and secure the signatures of your academic advisor and the professor in charge of the independent study course you will be taking before pursuing the approval and signature of the appropriate committee.
  6. Submit the signed copy of your request to the CGT Graduate Secretary, requesting that it be given to the appropriate committee for review.
  7. Once the request for an independent study course is approved, the course will be available for registration.

***NOTE:** Independent study credit may not be used for graduate research credit (i.e., as a substitute for required CGT 698 credit hours).*

## SECTION 7. THE CGT THESIS

The following section describes information related to the thesis requirements within CGT. Procedurally a student must:

- Enroll in CGT 698-00 (typically one (1) to three (3) credit hours) to generate and successfully defend the thesis proposal. Proposals typically include Chapters 1 (introduction) through 3 (method).
- Email the thesis proposal document to the graduate committee at least one week prior to the proposal defense.
- Defend the proposal in front of their graduate committee. The graduate committee is comprised of a minimum of three (3) faculty. Students typically provide a 30-40 minutes presentation with sufficient time remaining for committee members to ask questions and help guide the proposed project.
- Obtain appropriate approvals (if applicable) to conduct research (CITI, IRB, HIPAA, FERPA, etc.). See Section 9.0 of this handbook for more information.
- If approved, execute the thesis. During this time, students will enroll in subsequent required credits of CGT 698-00. Upon completion of the thesis, students must meet with the CGT Thesis Advisor for approval.
- Email the final thesis document to their graduate committee and graduate chair at least two weeks prior to the thesis defense.
- Defend the thesis in front of graduate committee. Students typically provide a 40-50 minutes presentation with sufficient time remaining for committee members to ask questions.
- Upon successful defense of the thesis, students must deposit the thesis with the University, the department, and the committee.

### 7.1. The Master's Thesis

A Master's thesis is a significant piece of original work, typically involving research, a formal written description of that research, and an oral defense of the research. Typically, the thesis contributes new knowledge to the discipline against the backdrop of what others have contributed to the topic as well, via a literature review. The tone should be scholarly, with a primary audience of other researchers. The thesis is more than a term paper but less than a doctoral dissertation. For example, a synthesis and description of others' research and writings alone may be appropriate as a term paper. While a comprehensive "review of the literature" must be included as a section of the thesis, it is not sufficient by itself. On the other hand, a doctoral dissertation might use an experimental or survey methodology involving large numbers of subjects on a national or international level. A master's thesis may be narrower in scope, being restricted to a local problem, a smaller number of subjects, or a conceptual model. A thesis should not just be an expression of your opinions; conclusions and opinions must be based on research results and analysis.

To pursue the development of a thesis, students must first develop a thesis proposal and secure its approval by their graduate committee. A formal meeting of the student's graduate committee is required to evaluate the proposal and CGT's Graduate Studies Office is to be provided a copy of the approved proposal with a form carrying the signatures of each committee member. Proposals are developed pursuant to student

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enrollment in one (1) to three (3) credit hour(s) of CGT 698-00 Research M.S. Thesis. Subsequent enrollment in CGT 698-00 for the additional required credits is contingent upon filing of the approved proposal. Students may receive no more than six (6) credits for CGT 698 on their EPOS.

### **7.2. Key Points about the Thesis**

1. A thesis typically addresses a theory or knowledge gap. Often it does so by testing or evaluating or by developing and validating a concept or methodology.
2. Theses require documentation of the significance of the problem or gap in knowledge they address (i.e., they make a contribution to the discipline).
3. All theses result in a clearly identifiable new (requires documentation of originality) knowledge of significance.
4. Generally theses involve the use of one or more accepted research paradigms and established research techniques. They may be quantitative or qualitative in nature. They may involve historical or philosophical, scientific or technological perspectives. They may be experimental, descriptive or developmental in methodology. Other forms/paradigms of research scholarship may also be employed if approved by the committee.
5. The thesis format must follow the *Purdue Graduate School Thesis Guidelines*, available at: <https://www.purdue.edu/gradschool/research/thesis/templates.html>. In addition to these general guidelines, the CGT department follows the APA citation format and requests some other specific variances (see
6. as supplemented and detailed in this handbook. The format is APA citation format with some specific differences (see section 8.4 and 8.5).
7. Theses demonstrate a high level of reasoning, effective written communication, and are documented in a form that permits replication.
8. Theses are necessarily filed in Purdue's library (via the E-pubs section). Theses containing intellectual property are marked as confidential and not made publicly available.
9. Theses are filed with the University and the *ProQuest* Repository (<http://www.proquest.com/>). Theses containing intellectual property are marked as confidential and not made publicly available.

10. Statement of Integrity and Code of Conduct:

[http://www.purdue.edu/purdue/about/integrity\\_statement.html](http://www.purdue.edu/purdue/about/integrity_statement.html)

### **7.3. Thesis CGT 698-00 Research M.S. Thesis Enrollment**

Exact enrollment procedures can vary, but at least two consecutive enrollments in CGT 698-00 are required. Typically, **the first enrollment is for one (1) to three (3) semester hour(s) of credit in the next-to-last academic term** (but earlier enrollment is permitted if appropriate). During this academic session, a proposal is developed and approved by the advisory committee. Subsequent registration in CGT 698-00 is not permitted until the approved and signed proposal has been filed in the Graduate Studies Office. **The second CGT 698-00 enrollment is for three (3) to five (5) semester hours of credit**, in which the study is conducted, the final thesis written, and the study defended in an oral examination.

Should the student not complete the project in the two enrollment periods, they are required to enroll for one (1) semester hour of credit each term until the project has been

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completed. The candidate must be enrolled in CGT 698-00 for at least one (1) semester hour of credit in the academic session in which the degree is awarded.

#### **7.4. Grades for CGT 698 Research M.S. Thesis**

Performance in any CGT 698-00 Research M.S. Thesis course is graded using the following scale:

- Satisfactory— used where the student has met or exceeded requirements for satisfactory progress.
- Unsatisfactory—used where the student has not met requirements and has not invested appropriate amounts of effort.
- Incomplete—used where the student has invested appropriate amounts of satisfactory effort but the project is not yet finished.

#### **7.5. Thesis Proposal Defense**

Once the thesis proposal has been completed (the proposal typically includes the first three chapters of the thesis), the student works with the graduate chair to establish a meeting of the graduate advisory committee for defense and approval of the proposal. Typically the student provides a 30–40 minute presentation, with sufficient time left to answer questions. Once the proposal is approved by the committee, evaluation forms are filled out by the committee and filed in the CGT Graduate Office.

***NOTE:** The proposal defense and the final defense of the thesis CANNOT occur in the same semester. The proposal defense meeting must be scheduled two (2) weeks in advance of the date of the proposal defense. The completed proposal must also be provided to the committee two (2) weeks in advance of the date of the proposal defense.*

#### **7.6. APA and Theses Formatting Requirements**

Theses in the CGT follow the university guidelines for formatting. Generally, the formatting is aligned with the APA parenthetical citation format with some specific additions or modifications.

Theses (for both proposals and final documentation) must utilize the document templates provided by the university. Templates are provided at the following URL: <https://www.purdue.edu/gradschool/research/thesis/templates.html>

##### **7.6.1. Notes about the Templates**

The following lists some things to note about using the templates and formatting in general:

- In TECH 646-00, students will be familiarized with the templates and use them to generate their projects in the course. Most students take TECH 646-00 in the same semester that they intend to defend their proposal.
- The University template will not automatically format all elements as needed within CGT. Specific elements such as: figure captions, table captions, table verticals, table of contents, and list of tables and figures will require some manual adjustments to get them to format correctly.

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- All students will have their formatting reviewed by the CGT Thesis Advisor (usually, the CGT Graduate Committee Chair) prior to their final thesis deposit.
- The Graduate School at Purdue typically hosts workshops on the use of the thesis templates each semester. Consult the Graduate School web site for the dates and times of these workshops.

### **7.7. Preparing Thesis Proposals**

Generally, each proposal has similar sections, but the order of the sections may vary as every individual and every proposed project is unique. The exact approach that the student takes is ultimately at the discretion of the major professor (advisor) and the student's graduate committee.

Proposals must be succinct and direct. Clear, jargon-free prose that establishes the need for the study and a proposed method of solution are required—nothing more (or less). While CGT faculty have not established specific proposal length requirements, a proposal should be sufficiently detailed to enable the graduate committee to render effective judgment and share appropriate advice on how to proceed. Typically, proposals are 30-50 pages (including figures, tables, and references but not counting appendices) to communicate essential detail.

Beyond content, there are two important factors in the writing of any professional paper, be it a proposal or a final report. One factor is format; the other is style. Format is the physical layout of a paper. Rules for indention, type face, line length, etc., are considered format issues. Style requirements are created to facilitate clear communication. Globally, style indicates the manner of expression and the sequence in which material is organized. At a micro level, style concerns formality, person, tense, spelling, and abbreviation standards. Both format and style are important, and both have their place. Most publication manuals include both style and format guidelines.

Proposals are always written in future tense. Thus, statements that refer to procedures should be stated as, "In this proposed study, I will collect data using..." or "Results of this study will be used to..." The advisor may indicate whether the proposal is best written in third or first person, depending on the type of research being conducted. For example, most quantitative research projects use third person, while most qualitative research projects use first person. Students should consult with their graduate chair and discuss which is appropriate based upon the direction of their research and the methodology they intend to employ.

### **7.8. Obtaining Permissions to Conduct Research**

To conduct research often requires various types of permission, depending on the type of research being conducted. For example, use of human subjects (even for what many consider innocuous research such as anonymous surveys) requires IRB approval. Section 9.0 of this handbook provides more information the various permissions that may be needed as well as further information.

### **7.9. Preparing the Final Thesis**

Students must become very familiar with the Purdue Graduate School's Thesis Manual and template even before they begin writing the final thesis. It is good practice for the

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student and their major professor to confer and agree on an initial outline for their thesis. Furthermore, to make it easier to establish consistency throughout their document, students are advised to also become comfortable with the paragraph heading style and outlining features of their word processor.

***NOTE:** Color figures may be used within the thesis.*

***NOTE:** If a thesis is greater than 350 pages, it must be separated into two volumes. Consult with the Graduate School for how this is done.*

## SECTION 8. CERTIFICATIONS, PUBLICATIONS & INTEGRITY

The following sections provide information about certifications (FERPA, IRB, CITI, etc.) and resources available at Purdue. Information about research integrity, plagiarism and copyrights conclude this section of the handbook.

### **8.1. Certifications & Approvals**

To be able access student information and to conduct research at Purdue University requires that faculty and students alike be certified in specific ways. Accessing student information requires FERPA certification. To conduct research requires CITI certification and IRB approval (when human subjects are involved). The following sections provide more information about these items.

#### **8.1.1. Family Educational Rights and Privacy Act (FERPA)**

To be able to access student information via Purdue's various computer systems (such as myPurdue), faculty and students must be aware of certain legal issues associated with such data. FERPA protects and makes confidential student information beyond basic "directory information" about the student.

*NOTE: Purdue University's official FERPA policy is outlined in Executive Memorandum C-51 available at:*

*[http://www.purdue.edu/policies/pages/records/c\\_51.html](http://www.purdue.edu/policies/pages/records/c_51.html)*

Purdue University requires that faculty and students who have a justifiable need to access student information be trained and certified. Faculty and students can become FERPA certified by accessing: <https://www.purdue.edu/registrar/FERPA/certification.html>.

#### **8.1.2. Collaborative Institutional Training Initiative (CITI) Certification**

The CITI Program is a subscription service providing research ethics education to all members of the research community. Purdue University uses this system to certify faculty and graduate students to conduct research. Of particular importance, researchers involved in the use of human subjects are required to complete the CITI web-based education program in order to be certified as eligible to engage in human subject research at Purdue University. All researchers on an IRB protocol must complete the CITI training before the IRB protocol will be approved. To become CITI certified, faculty and students should create an account at <https://www.citiprogram.org/> and then go through the required training modules, following the instructions at: <https://www.irb.purdue.edu/training/>. Graduate students who serve as collaborators on research are also required to pass CITI certification.

#### **8.1.3. Institutional Review Board (IRB) Approval**

The IRB is a unit of the Human Research Protection Program (HRPP), which is housed within the Office of Research Administration (ORA), located in room 300 Hovde Hall.

*NOTE: The IRB is an extension of the Office of the Vice President for Research (<http://www.purdue.edu/research/vpr/>). Faculty and graduate researchers should become familiar with the wealth of information available on the VPR's web site.*

The IRB website (<https://www.irb.purdue.edu/>) provides detailed steps, forms, and example IRB proposals for all Purdue University faculty and students conducting human subjects research. Researchers need to obtain permission to conduct any studies at Purdue University by submitting IRB proposals and completing certain workshops and online training protocols (see CITI Certification above).

## **8.2. Resources**

The following sections acknowledge important resources provided by various units across campus.

***NOTE:** The Vice President for Research provides a handbook titled, *Research Handbook: A Guide to the Grants Process at Purdue University* located at: <http://www.purdue.edu/research/vpr/rschdev/documents/researchhandbook.pdf>*

### **8.2.1. Research Oversight**

The Office of the Vice President for Research (VPR) provides much information for faculty and students concerning issues pertaining to research. The VPR provides research oversight concerning Export Control (transport of commodities, software, technical data and certain other information to foreign countries), use of controlled substances for research purposes, use of radiation/lasers, use of biologically hazardous materials, use of animals as well as research involving humans. Faculty and students should be aware of the information available, particular if their research includes any of these or if they are traveling abroad (<https://www.purdue.edu/research/vpr/rschadmin/rschoversight.php>).

### **8.2.2. Responsible Conduct of Research (RCR)**

The RCR is a joint program between the Graduate School and the Office for the Vice President for Research. This program provides workshops, online training and tutorials, as well as assists in setting policy relative to the conduct of research at Purdue University. More information about the RCR is available at: <https://www.purdue.edu/gradschool/research/rcr/index.html>.

### **8.2.3. Statistical Consulting Service (SCS)**

The Department of Statistics provides statistical software and design consulting services for the University community—free of charge. The Statistical Consulting Service can help with statistical software problems and data analysis issues. *Statistical Software Consulting* provides assistance with the set up and running of a wide variety of statistical computing programs, including SAS, SPSS, Minitab and S-Plus. Software consulting is available in MATH G175 on a drop-in basis. *Experimental Design and Data Analysis Consulting* is available during the Fall, Spring and Summer semesters. Services include assistance with all phases of research projects: proposal preparation, design of studies, survey design, data input strategies, data import/export, probability problems.

### **8.2.4. Center for Instructional Excellence (CIE)**

The CIE provides valuable teaching resources (and teaching scholarship



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resources) to faculty. Graduate student TAs can obtain various certificates by completing a series of free workshops and seminars. The certificates include: Graduate Teaching Certificate (GTC), Graduate Teacher Certificate Alternative, Advanced Graduate Teacher Certificate (AGTC), Preparing Future Faculty Program (PFFP), and the Graduate Teacher Technology Certificate (GT2C). In addition, the website provides teaching tips, teaching consultation, and information about instructional data processing (e.g., test scoring and page scanning services). More information is available at: <http://www.cie.purdue.edu/>.

### **8.2.5. Sponsored Programs Services (SPS)**

SPS assists Purdue's faculty, staff, and students in securing and managing sponsored program support, and in delivering maximum public benefit from sponsored projects. SPS manages the process of proposal submission, award management, reporting and various contracts that may result from a sponsored award. For more information about SPS and their services, see <http://www.purdue.edu/sps/>.

### **8.2.6. Discovery Park**

Discovery Park, located adjacent to campus, is a collection of large-scale centers that lead Purdue's interdisciplinary research efforts. Some of these centers include Bindley Bioscience Center, Birck Nanotechnology Center and Burton D. Morgan Center for Entrepreneurship. There are various ways in which graduate students can engage Discovery Park. For more information, see <http://www.purdue.edu/dp/>.

### **8.2.7. Purdue Research Foundation (PRF)**

The PRF is a nonprofit foundation that 1) manages gifts, bequests and endowments; 2) makes funding available to faculty, staff and students to aid in scientific investigation, research or educational studies; 3) acquires, constructs and improves Purdue's facilities, grounds and equipment; and 4) manages intellectual property developed at Purdue. More information about PRF is available at: <http://www.prf.org/>.

## **8.3. Integrity**

Purdue University has a tradition of ethical conduct spanning its history. As a land-grant institution, Purdue demonstrates responsiveness to its constituencies and extends to them access to our knowledge resources. We nurture relationships with other partners in education who support our vision or join us to foster common interests. We integrate our mission with our responsibilities. We contribute our knowledge resources impartially in serving our public purposes. As faculty, students, staff, and administrators, we are a community of dedicated learners, scholars, professionals, and practitioners - all contributing our talents to uphold our standards, and improve ourselves and the broader community in which we live and work. Our responsibilities and obligations toward the advancement of learning, discovery, and engagement in the University and in Indiana extend to our nation and the world. Purdue's statement of integrity is meant to provide an overarching declaration that informs specific policies and procedures regarding conduct, enforcement, and accountability. Such policies and procedures either exist in official University documents or will be developed as necessary.

***NOTE:** Purdue's Statement of Integrity is available at: [http://www.purdue.edu/Purdue/about/integrity\\_statement.html](http://www.purdue.edu/Purdue/about/integrity_statement.html)*

Purdue University maintains the highest academic and ethical standards of research

conduct by faculty and graduate students. It is important to note that the university sees the acts of plagiarism, falsification and fabrication as equal as acknowledged by the following university policy on research misconduct:

"Research misconduct" shall mean, for the purposes of this policy, fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific and academic community for proposing, conducting, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data (Excerpt from the *Purdue University Policy on Research Misconduct (VIII.3.1)*).

### **8.3.1. Plagiarism, Falsification, and Fabrication**

Plagiarism is serious violation of research conduct and every researcher, faculty and graduate student needs to be conscious of what it is, and how to avoid it. Plagiarism is to steal or pass off the words, ideas, or intellectual product of another as one's own. It is essentially literary theft as it regards works of a written nature. Plagiarism is typically defined as the use of four or more adjacent words from a specific source.

To avoid plagiarism, you must give credit whenever you use:

- Another person's idea, opinion, or theory;
- Any facts, statistics, graphs, drawings—any pieces of information—that are not common knowledge;
- Quotations of another person's actual spoken or written words; or
- Paraphrase of another person's spoken or written words.

### **8.3.2. Strategies for Avoiding Plagiarism**

The following are some general strategies to avoid unintended plagiarism:

- Put in quotations everything that comes directly from the text, **especially when taking notes**.
- Paraphrase, but be sure you are not just rearranging or replacing a few words (which is conscious plagiarism). Instead, read over what you want to paraphrase carefully; cover up the text with your hand, or close the original source so you can't see any of it (and so aren't tempted to use the text as a "guide"). Write out the idea in your own words without peeking.
- Check your paraphrase against the original text to be sure you have not accidentally used the same phrases or words, and that the information is accurate.

### **8.3.3. Guidelines for Quoting and Citing**

The following are some guidelines that can be used for determining when to quote and when to cite material from other sources:

- If paraphrasing or writing about the ideas presented by another, citation is necessary (Smith, 2008).
- If using four or more words (even with "permission to use"), quotation and citation is necessary. Quotations over 40 words long should be "blockquoted" as per APA format specifications.

- All quotations require a page number following the quotation or integrated into the citation.
- If you are in doubt how to give credit, quote and cite the source.

### **8.3.4. Self-checking for Plagiarism**

To assist Purdue faculty and students, the Graduate School, in partnership with the Office of the Vice President for Research, has initiated this voluntary self-check service called *iThenticate*. The software checks submitted documents against thousands of articles that are published in journals and conference proceedings as well as text that appears on the Web. A similarity report is generated that highlights excerpts in the submitted document that match similar text in documents found in print and on the Web. Similarity reports can be helpful in detecting occurrences of inadvertent replication and neglect in referencing.

*iThenticate* is expressly for use as a tool for checking documents before submission to committees, journals, publishers, and archives, to help students and faculty prevent incidences of unintended plagiarism. The service is free for Purdue faculty and is only for individual use. Use of the service by students is limited to individual work authored or co-authored by the student for the purpose of screening for potential plagiarism violations prior to submission. The screening service is not to be used for checking the work of others; screening articles of any kind previously submitted for publication; or screening documents of any kind previously submitted for deposit with the Graduate School, for review by an academic committee, or for archiving within the University.

Since the report generated by *iThenticate* only provides citations of language similarity, judgment on the part of the student is often necessary as to whether the submitted text is substantively different from similar text found in the literature. Students are encouraged to seek assistance from their advisors and to consult the Graduate School resources: <https://www.purdue.edu/gradschool/research/rcr/index.html>.

It is the goal of the university to grant all faculty at Purdue the ability to use the *iThenticate* system. Students do not have direct access to the system. For students to gain access to the system, they must contact a faculty member who has access. However, faculty can process documents on behalf of students and then provide the results.

Most CGT faculty have access to the *iThenticate* system. If you have a document you would like to have analyzed, contact your advisor and/or chair and they can submit it on your behalf, and provide the results to you. Please note that as part of the Thesis Format Advising Process, all graduate students will have their thesis analyzed in the *iThenticate* system.

***NOTE:** The *iThenticate* system accepts the following file formats: Microsoft Word, searchable pdf, LaTeX, postscript, and plain text. Scanned documents converted to pdf or encapsulated in Word or LaTeX are not acceptable. Also note that you should delete all images from your file before submitting it for processing (so as to reduce file size).*

### **8.4. Copyright Issues with Figures**

Figures and images included in a publication can pose significant issues for authors.

Generally, any figure that is directly from another source, such as a journal, book, or other publication (including web publications) are copyrighted. Including them within one's publication requires more than just a citation if used directly from the source. If you desire to use an image from another publication or from an online source, the safest course of action is to secure a release to do so. Otherwise, it could be classified as copyright infringement. A secondary method, albeit in certain cases it could still be considered copyright infringement, is to redraw the image. However, in many cases, redrawing or recreating the image is not enough to ensure it is still not a copyright infringement.

A release to use an image can vary from a specific legal document to a simple email. The key element of a release is that the "copyright holder" gives you permission to use the image for your purposes. Yet, determining who the copyright holder is can sometimes be quite difficult. And, often authors do not fully understand what rights they have.

If you want to use an image, the first course of action is to email the author of the source from which the image is being taken. A release from an author needs to include two things:

1. That the author has the right to grant use of the image.
2. That he or she gives permission for the image to be used for your specific purposes.

It is always a good idea, even if an author gives permission, to follow up with the publisher of the source from which the image is taken and ensure a release is not also needed from the publisher.

As with issues of plagiarism, copyright infringement issues resulting from the illegal use of images is a serious matter. The author should do everything in his or her power to ensure the legitimacy of the use of materials in his or her publications. It is safer to not include an image if you cannot secure appropriate permissions than run the risk of copyright infringement.

## **SECTION 9. POST-PROJECT/THESIS ACTIVITIES**

The following section outlines the specific tasks and activities that occur once the student has executed and documented their thesis.

### **9.1. Appointment of the Examining Committee & Scheduling the Final Oral Examination**

The examining committee will usually be the same as the student's advisory committee. The major professor and student are jointly responsible for finding a common date, time, and period when all advisory committee members can meet for the final examination and this must occur within the deadlines established by the Graduate School. The graduate student is expected to take initiative to begin this procedure in conjunction with the availability of the chair and graduate committee. Typically, the Graduate Administrative Assistant in CGT will find appropriate facilities for the meeting. The date, time, period and equipment needed for the meeting are to be transmitted to the CGT Administrative Assistant by the student.

***NOTE:** The proposal defense and the final defense of the thesis CANNOT occur in the same semester. The final defense meeting must be scheduled two (2) weeks in advance of the date of the defense. The final thesis must also be provided to the committee two (2) weeks in advance of the date of the defense.*

Following the notice of final examination date, the CGT Graduate Secretary will schedule an appropriate meeting room (equipment other than standard equipment offered by Purdue is the responsibility of the student to arrange). The final examination must be scheduled a minimum of three weeks in advance, and the final thesis document must be provided to the committee for review at least two weeks in advance.

### **9.2. Declaring Graduation Candidacy**

In the semester that a student intends on defending their thesis, he or she must declare candidacy as they register for classes. An email that is initiated by the student is sent to his or her Chair and the CGT Administrative Assistant asking for permission to be enrolled as a Candidate by their Chair. The Chair will respond to the student and the CGT Graduate Administrative Assistant and if approved the CGT Graduate Secretary will proceed with registering the student for CAND for that intended semester.

***NOTE:** In order to be eligible to graduate, an approved Plan of Study must be on file with the Graduate School before the start of the final semester (see Graduation Deadlines Calendar on the Graduate School web page for deadlines).*

### **9.3. Completing the CGT 698-00 Requirement**

At the conclusion of the final oral examination, the major professor and each member of the examining committee will sign the Graduate School Form.

***NOTE:** The Graduate School permits **NO EXCEPTIONS** to its published deadlines. If all degree requirements are not met in the semester in which candidacy is declared, the student must register for one (1) semester hour of CGT 698 each subsequent semester until all requirements are met.*

If any problems or deficiencies in the report are indicated by the examining committee, these must be corrected before the project or report will be approved by each committee member. In order for graduation to occur during any semester, completion of all required edits/corrections must occur and be approved before the established deadlines.

The last step involves submitting a copy of the approved project report to each of the following: University, department, and Graduate Committee.

#### **9.4. Formatting Review for Theses**

Students are required to contact the CGT Thesis Format Advisor **at least two weeks** before they defend their thesis. The CGT Thesis Format Advisor will review the formatting of your thesis and inform you of any formatting errors that you need to fix before depositing the thesis. A thesis formatting check is mandatory. If you do not meet with the CGT Thesis Advisor and get the electronic approval on Form 9, you **will not graduate** on time.

The Thesis Formatting Review requires that you email the CGT Thesis Advisor a copy of your thesis, and proof of completion of the CGT exit survey available at [https://purdue.qualtrics.com/jfe/form/SV\\_d3UQnIKBx5QLc9L](https://purdue.qualtrics.com/jfe/form/SV_d3UQnIKBx5QLc9L).

#### **9.5. The Oral Defense of the Thesis**

At most oral defense meetings, the student conducts a 20–30 minute presentation and then the faculty committee is allowed to ask questions. If time permits, guests in the audience may also ask questions, but this is at the discretion of the chair. Students should discuss the final defense meeting with her or his chair in advance to verify the method by which the chair will conduct the meeting.

#### **9.6. University Deposit of the Thesis**

Following successful defense of a thesis, students must deposit their thesis with the Graduate School. Information about the thesis deposit is available at <https://www.purdue.edu/gradschool/research/thesis/>.

***NOTE:** The graduate chair or the student may desire to hold the thesis in confidentiality status for a certain period of time. Both graduate chair and student must agree on confidentiality status.*

#### **9.7. Departmental Deposit of the Thesis**

When filling out the Electronic Thesis Acceptance Form be sure to grant open access so the Purdue Libraries can include your thesis in the departmental collection in Purdue e-Pubs: <https://docs.lib.purdue.edu>.

#### **9.8. Copies of Final Thesis for Graduate Committee**

Most faculty prefer a traditionally printed and bound copy, whereas others might prefer a

digital/electronic copy. Confer with your chair to determine which they prefer. Typically, whatever is done for the chair is also done for the rest of the committee. If your chair requests a bound copy, the Purdue University Boiler Copy Center can assist you. Typically, faculty request a “case (book) bound” copy. More information about this may be found at: <http://www.purdue.edu/printingservices/>.

### **9.9. Additional Requirements for Graduation**

Additional items that M.S. students must complete for graduation include:

- *Graduate School Survey*. All students must complete the Graduate School Exit Survey if they wish to graduate. Students typically receive an email and/or notification in the *myPurdue* system that details how they complete this requirement.
- *Optional Copyright Fee*. If students would like their thesis to be officially registered with the U.S. Copyright Office, they may pay an additional \$65 fee.

### **9.10. Participating in Commencement**

All graduating students are encouraged to participate in the university’s commencement ceremonies. This is a time justifiably used to reflect on your accomplishments with pride and to share in the success of others, including the faculty, as well. Information pertaining to commencement (dates, attire, etc.) is available via: <http://www.purdue.edu/registrar/>.

**SECTION 10. MASTER'S DEGREE PROCEDURAL CHECKLIST**

To help students progress through their degree requirements, the following checklist will help map a path through the Computer Graphics Technology MS Program. Specific and official deadlines are announced each semester via the Graduate School web site. Table 11.1 shows a helpful chart.

Table 11.1. CGT M.S. Timetable

<b>Semester</b>	<b>End of the 1<sup>st</sup></b>	<b>End of the 2<sup>nd</sup></b>	<b>End of the 3<sup>rd</sup></b>	<b>End of the 4<sup>th</sup></b>
<u>Coursework</u>			Complete CGT 698-00 (1-3 cr.)*	Finish Coursework Complete CGT 698-00 (3-5 cr.)*
<u>Advisor / Committee</u>	Work with advisor on research area and possible committee members	Establish committee*	Schedule/attend thesis proposal defense meeting*	Schedule/attend thesis defense meeting*
<u>Electronic Plan of Study</u>	Create/File draft EPOS	File Official EPOS	File EPOS Changes (as necessary)	File EPOS Changes (as necessary)
<u>Thesis</u>	Attend another student's thesis defense	Generate a research idea	Thesis Proposal Defense (Chapters 1-3 complete) IRB or other required approvals	CGT Thesis Advising Appt. Final Thesis Defense GS Thesis Deposit Appt. CGT Thesis Deposit (e-Pubs) Committee Deposit
<u>Graduation requirements</u>				CGT Publication req. CGT Exit Survey GS Exit Survey Cap and Gown Order Attend Graduation

\*If you are a non-thesis student, only 6 credits of CGT 597-00 must be taken.

**10.1. First Semester**

1. If the transcripts submitted with the application for admission were not complete, arrange to have two (2) copies of the final transcript showing receipt of the baccalaureate (Bachelor's) degree sent to the CGT Graduate Secretary.
2. Sign up for and complete CGT 501-00.

*With the help of the major professor:*

3. Discuss your career and educational objectives and, within the framework of the CGT master's degree, draft a preliminary plan of study. Review the optional related areas as you work.
4. Begin selecting a master's committee consisting of your Major Professor and at least two graduate faculty members. At least two of your committee members must be regular, CGT graduate faculty. You may select one or more additional faculty to serve on your master's committee and in some cases this is clearly advantageous.
5. Discuss the preliminary plan of study with each of the potential members of the advisory committee.



6. Using the Electronic Plan of Study (EPOS) system, submit your draft plan of study.
7. Refine the plan of study, if needed, based on the committee's suggestions.
8. Using the Electronic Plan of Study (EPOS) system, submit your final plan of study by the end of the second semester of study.
9. Identify a tentative thesis or capstone problem area.
10. Register for classes for the next semester following approval of the plan of study.

### **10.2. Succeeding Semesters**

1. Register for classes as appropriate for the next semester.
2. Register for TECH 646-00 or other approved methods course (during your second or third semester) and begin planning for your thesis.
3. If you are a thesis student:
  - a. During your third semester at the latest, register for at least one (1) semester hour of CGT 698-00 and begin work on the thesis proposal.
  - b. Schedule a defense meeting for the thesis proposal (at least two weeks in advance of the meeting). All committee members must be present. Once the committee has approved the proposal, submit the proposal and signed form to the CGT Graduate Secretary.
  - c. After the proposal is approved, begin work on the thesis (3 to 5 semester hours of CGT 698-00, to complete the actual thesis).

### **10.3. Final Semester**

1. Register for any remaining courses on the plan of study.
2. Ensure that any changes in your plan of study have been approved using the Change process within the electronic plan of study generator, located on *myPurdue*.
3. An email that is initiated by the student is sent to their Chair and the CGT Administrative Assistant asking for permission to be enrolled as a Candidate by their Chair. The Chair will respond to the student and the CGT Graduate Secretary and if approved the CGT Graduate Secretary will proceed with registering the student for CAND for that intended semester.
4. If you are a thesis student:
  - a. Register for at least one (1) semester hour of CGT 698-00 (or the remaining number of hours to bring your total research hours to the minimum required). (See section 10.3 of this handbook).
  - b. Arrange the scheduling of the final oral examination at least three weeks prior to the exam date. Thesis students must initiate their Form 8 through their *myPurdue*.
  - c. Schedule Thesis Format Advising meeting with the CGT Thesis Advisor to occur two weeks prior to the final oral examination via the CGT Graduate Secretary.
  - d. Schedule University deposit meeting in the Graduate School.
  - e. Use Purdue's *iThenticate* system to check the authenticity of your thesis.
  - f. Satisfy the final oral examination requirement and make any revisions to the thesis that are required by your committee.
  - g. Submit a final copy of your thesis to the Purdue Library e-Pubs section prior to the deadline established by the CGT Graduate Studies office.
  - h. Provide final copies of your thesis project to your chair and graduate committee.

## SECTION 11. CGT DEPARTMENTAL EXPECTATIONS FOR GRADUATE STUDENTS

- Attend all meetings scheduled by the chair of their advisory committee.
- If awarded an assistantship, attend **all** scheduled course meetings or research meetings as outlined by the supervising faculty member.
- Submit a draft Plan of Study **before** their **first** semester is complete.
- Establish an advisory committee **before** the **second** semester is complete and POS.
- Attend an IRB sponsored workshop when appropriate and complete the online training modules.
- Submit to the graduate advisory committee a Thesis Proposal **before** starting on the project **and** at least one week before the advisory committee review meeting (proposal defense).
- Successful presentation/defense of the Thesis Proposal will be completed **no later than the end of the semester prior** to the semester in which the student intends to graduate.
- Submit the final Thesis Report to the advisory committee **at least two weeks** before the scheduled presentation date (final defense date).
- Adhere to the established standards as outlined in the *CGT Graduate Student Handbook*.
- Acquire professional writing and editing support as necessary during the preparation of the research proposal and/or thesis.
- Prepare a paper for publication in a refereed/trade journal or presentation at a conference in conjunction with work done for the thesis.
- Attend another student's defense/oral examination.

## **SECTION 12. GRADUATE FACULTY IN COMPUTER GRAPHICS TECHNOLOGY**

The offering of graduate courses and the detailed supervision of graduate students is the province of the graduate faculty. Members of the University faculty are not automatically members of the graduate faculty. Authority to teach graduate-level courses and to supervise graduate students is granted by the Dean of the Graduate School upon recommendation by the Director of Graduate Study for CGT. Each faculty member desiring to serve as a graduate faculty member must make formal application to and be certified by the Graduate School of Purdue University. Each faculty member certified by the Graduate School is assigned a maximum level of participation based on academic record and professional experience.

The approved graduate faculty members in Computer Graphics are listed at:  
<https://polytechnic.purdue.edu/degrees/ms-computer-graphics-technology/graduate-faculty>.

## **APPENDIX A: FIVE-YEAR COMBINED B.S./M.S. DEGREE: PROGRAM IN COMPUTER GRAPHICS TECHNOLOGY**

The five-year combined BS/MS Degree Program in Computer Graphics Technology enables outstanding students to complete the Bachelor of Science in Computer Graphics Technology and the Master of Science in Computer Graphics Technology in a total of five years, rather than six years or more (if pursued separately). Program information can be found at: <https://polytechnic.purdue.edu/degrees/computer-graphics-technology/five-year-bs-and-ms-cgt>

The program does not alter the requirements for either degree, but allows students to count up to nine (9) credits of graduate level courses toward both degrees, thereby reducing the total time to complete the MS degree. With full course loads and summer courses, students can complete both degrees in no more than five (5) years from the beginning of their academic career in CGT.

### **12.1. Admission Requirements**

Requirements for admission to the Combined Degree Program in CGT include a minimum 3.5 GPA in CGT courses and a cumulative overall GPA of at least 3.2. Students must also complete 90 of the 120 credits in the CGT BS degree by the end of their sixth (6<sup>th</sup>) semester.

### **12.2. Admission Process**

Students desiring to apply to the Combined CGT degree program do so at the beginning of their sixth (6<sup>th</sup>) semester (the second semester of the junior year). If accepted to the program, a student begins taking graduate courses in the senior year (one during the first semester of the senior year, and two during the second semester). It is also possible to take courses during the summer between one's junior and senior year. One advantage to the student is that the Graduate Record Examination (GRE) is not required to pursue the MS under this program.

#### **Applying to the Program:**

1. Fill out the *CGT Dual Program Application* and an MS-BS Plan of Study form: <https://polytechnic.purdue.edu/degrees/computer-graphics-technology/five-year-bs-and-ms-cgt>
2. Meet with your undergraduate counselor to verify your CGT and cumulative GPA. Your counselor will need to sign the *CGT Dual Program Application* form.
3. Seek out and meet with a CGT Graduate Faculty Member who you would like to serve as your graduate advisor. You will want to find a CGT Graduate Faculty member whose research interests align with your interested. A listing of CGT Graduate Faculty and their related interest areas is located at: <https://polytechnic.purdue.edu/degrees/ms-computer-graphics-technology/graduate-faculty> The CGT Dual Program Application form requires that you develop your five-year plan of study. Work with your graduate advisor for assistance on this.
4. Submit an Electronic Graduate School Application online. Leave the questions that ask about the GRE unanswered. The GRE is not required for the combined program.
5. Pay the required application fee.

6. Submit a *Statement of Purpose* electronically with your online application (max 500 words). It should describe your purpose for wanting the MS degree, reasons for wanting to study at Purdue, professional plans, career goals, and research interests.
7. Ask three CGT faculty members or other professional references that have relevance to your area of study to provide letters of recommendation (submitted electronically). When you apply online, the website will contact them to complete an electronic recommendation.
8. Following receipt of these materials, the CGT Graduate Committee will meet to accept or reject the application to the program. Following the meeting, the student will be informed of the result.

**Deadline for completion of applications:**

For admission in August: February 1 & for admission in January: September 1.

Admission by the Graduate School will constitute acceptance into the BS/MS program and you will then have dual status as an undergraduate student and as a graduate student during your senior year.

**Degree and Program Requirements**

- The requirements for each degree are the same as for students pursuing the degrees separately.
- The BS degree must be awarded prior to the M.S. degree.
- No more than 9 graduate credit hours can be taken by an undergraduate student who has not yet been awarded the BS degree.
- Students in the program may use up to nine credits of graduate level courses toward both the MS and BS as free electives or technical elective (if applicable) in the BS program.
- Graduate plans of study will be submitted to the graduate school. Plans of study may be modified with approval of the student's graduate committee.
- Students in the program must:
  - Take at least one 50000- or 60000-level course each semester after the junior year.
  - Follow the BS and MS plans of study so as to complete both degrees within five years of beginning the CGT BS program.
  - Maintain and graduate with at least a 3.0 graduate GPA in both programs.
  - The Graduate Committee may grant exceptions for compelling reasons.
- Students who leave the program, whether for failure to meet the program requirements or by withdrawal, will cease to be graduate students but may continue as undergraduate students if they have not been awarded the BS. Such students may apply for regular admission to graduate study; but they will not be permitted to use on a subsequent MS plan of study any graduate courses used to fulfill BS requirements.

Please contact the CGT Graduate Studies office at [cgtgradinfo@purdue.edu](mailto:cgtgradinfo@purdue.edu) with any questions you may have regarding this program.