Program Guide

Department of Computational and Data Sciences
Doctoral Program in Computational Sciences and Informatics (CSI)

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Welcome to CDS

Dear Student,

Welcome to the Computational Science and Informatics PhD program at Department of Computational and Data Sciences (CDS) at George Mason University.

In this guide, we explain some of the basics of being a student of the program. Below, you will find general guidance on what the program is about in practice, what you should expect and prepare for, and how to maximize the benefit of being here. There are some practical diagrams and tables, and suggested programs of study to help you get started.

It is important that you understand the official rules of the program as laid out in the University Catalog that corresponds to your term of admission or any subsequent change of catalog year you may request. Another important source of information is contained in the University Graduate Policies, which outline general rules that all graduate students at George Mason University must follow. Our program complies with both the College of Science and George Mason University rules. Students should also be mindful of the university calendar, updated regularly, which specifies a variety of information including dates for finals, dates for submission of important documents (including dissertations).

Important supplementary documents/links:
University Catalog for CSI PhD
GMU Academic Graduate Policies
COS graduate/faculty Handbook
University Calendars (part of the University Registrar's website)

The CDS department website contains additional information
Department website

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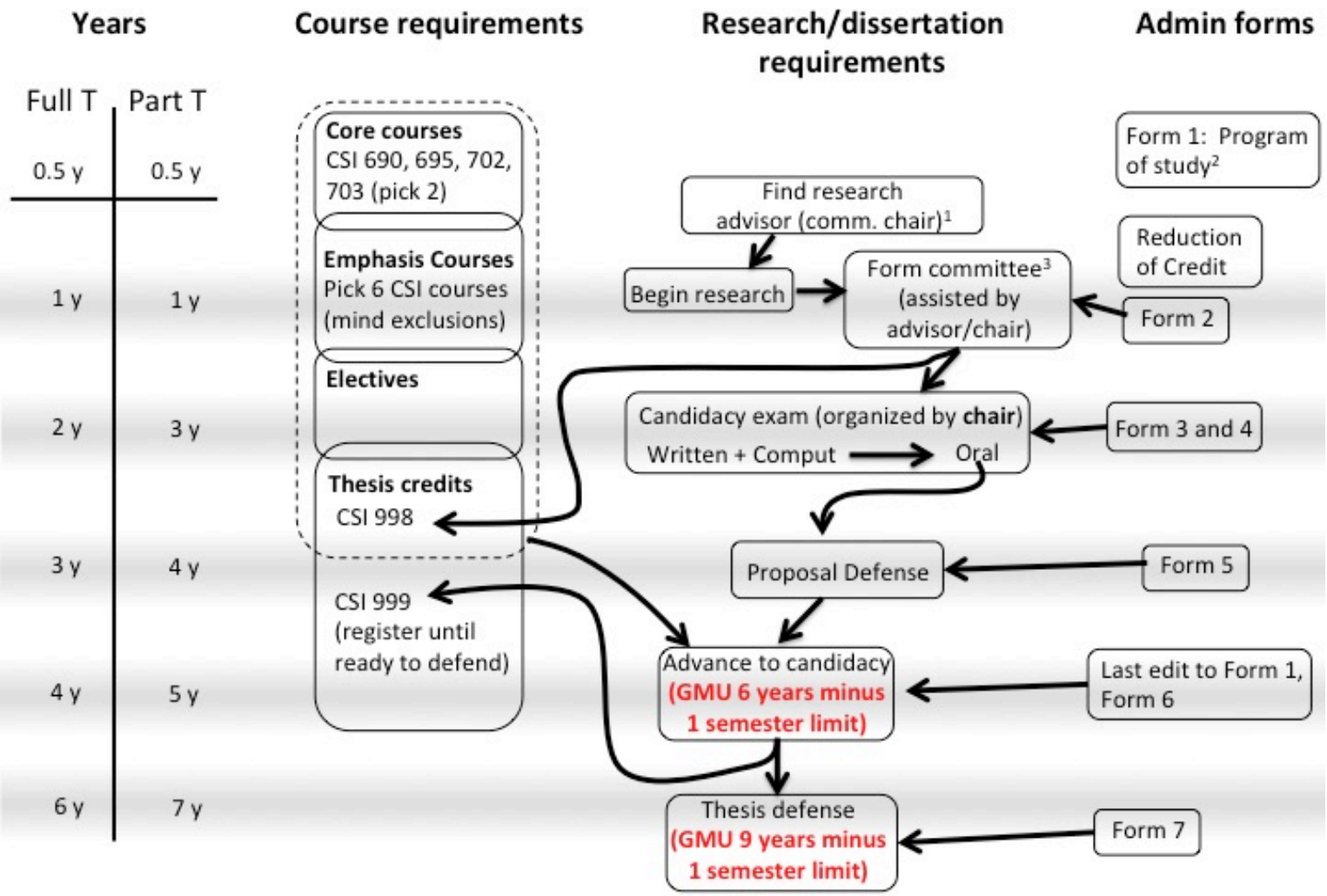
Schematic of PhD requirements and approximate timeline



[1]If research advisor is CDS core faculty, then he/she is also be committee chair. If not, a CDS core faculty is needed to be chair.
[2]CSI program Form 1
[3]Submit CSI program Form 2

*Gray shadow reflects approximate (but highly advisable) times. Note that the advancement to candidacy and dissertation defense deadlines *are* exact.

CSI PhD Quick Start Guide

Newly admitted students about to start the CSI PhD should take the steps below to get going quickly. Any doubts or question should be addressed to either the program administrator or the director of graduate studies.

1) Before you start in the program:

- Read and understand this handbook, posted online at https://science.gmu.edu/media/csi-phd-guide-21)

- Register for classes

- Core classes should be prioritized to the first couple of semesters from starting the program.

2) Either before you start or in the first couple of months from starting:

- Structure a program of study (suggested starting templates below).

- Discuss your proposed program of study with the Director of Graduate Studies.

Brief Description of the PhD Milestones

To complete the PhD program, students need to satisfy various requirements, schematically outlined in on "**Schematic of PhD requirements and approximate timeline**." In summary, a student must complete:

1) coursework/credits requirements,
2) research activity supervised by their research adviser, and
3) general examinations which include, in order, the candidacy exam, doctoral dissertation proposal, and dissertation defense. These examinations require the formation of a dissertation committee.

These requirements have certain rules and need to be achieved in a certain sequence.

Coursework requirements and reduction of credit

These consist of a total of 72 credits distributed as follows: 6 core courses, 18 area of emphasis courses, 23 of elective courses, 1 of colloquium/seminar, and 24 dissertation credits obtained through CSI 998 and CSI 999 courses. Our PhD program admits a maximum reduction of 23 credits, based on the completion of relevant graduate coursework in another graduate degree. With few exceptions, these credits serve to reduce electives and colloquium credits.

Research requirement and research advisor

Although there is a large course requirement, a PhD is fundamentally a research degree. Students need to maintain this foremost in their planning. Students, part-time or full-time, should seek a research advisor promptly. *Ideally, by the end of the first year after the start of their PhD, students should have explored supervision options and be finalizing arrangements with a research advisor.* Students who delay in this process may encounter administrative complications and possible termination from the program due to various factors including an inability to meet certain university deadlines. Typically, research advisors should be chosen from among deparment faculty members, although in a few cases, a advisor from another deparment may be more appropriate.

To find a research advisor, discuss with several department faculty members whose research interests match yours. Mention any possible funding needs and opportunities in these discussion. It is also a good idea to discuss with each member their supervision expections, style, and even to discuss with their other current graduate students so that you know what to expect.

Your research advisor will help set up your dissertation committee (see rules on dissertation committee below which discuss the case of a advisor outside CDS), candidacy exam, dissertation proposal, and ultimately your dissertation and defense. Some of your coursework beyond the basic core courses and some area of emphasis courses should also be discussed with your research advisor.

Examinations

It is highly recommended that students take a proactive approach to completing these examinations in a timely manner. The rules for each of these examinations are explained in detail below.

Sources of Funding

University Presidential Fellowships (cover tuition, stipend including summers, and university health insurance):
These are available only to new PhD students who have not yet taken any courses of the PhD program. University Fellowships are offered for 4 years for students that received them in a fall term, and 3.5 years for students that receive them in the spring term. The university assigns each PhD program a limited number of these fellowships and, consequently, they are not always available to new students in a given admissions cycle.

Departmental teaching assistantships (cover tuition, stipend, and university health insurance):
The department is currently able to support a number of PhD students simultaneously via teaching assistantships (GTA), distributed equitably between the CSI and CSS PhD degrees (both offered by the CDS department). Any student holds a GTA for 1 year at a time. A GTA can be renewed on the basis of good simultaneous academic (course work and research) and teaching performance, and it is ultimately granted at the discretion of the department. It is current department policy to grant GTA positions only to those students who hold a prior MS or have completed at least 18 graduate credits as recognized by GMU. Also, only full-time students are eligible for GTA support. A student holding a GTA is considered to be enrolled full-time with 6 credit hours. *This funding source requires initial college training when you first take it on (schedule of trainings is updated yearly and requires the recipient to be available before the start of the semester).* Students holding assistantships may not engage in other on- or off-campus employment, including additional assistantships, during the period they hold an assistantship without explicit written approval from the department chair, program director, or dean.

Grant-based graduate research assistantships (cover 9 credits of tuition, stipend, and university health insurance):
Departmental faculty holding grants can support graduate research assistants, as allowable per grant, for varying periods. The grant Principal Investigator (PI) is the supervising entity, and the graduate researcher can work 20 hours per week, receives a stipend, 9 credits of in-state tuition and is eligible for health insurance. Graduate research positions are handled by the PI. In general, these assistantships are set up in 1-year increments, renewable on the basis of performance and funding. Students holding assistantships may not engage in other on- or off-campus employment, including additional assistantships, during the period they hold an assistantship without explicit written approval from the department chair, program director, or dean.

Departmental graduate lecturer positions (paid salary based on Mason adjunct faculty salary matrix):
The department hires graduate lecturers on an as-needed basis. It is current department policy to hire graduate lecturers only when students hold a prior MS or have completed at least 18 graduate credits as recognized by GMU. A graduate lecturer must be a student in good academic standing and hires are made based on a review of relevant qualifications not limited to academic standing. These positions are advertised via the departmental website and listservs.

Departmental graduate STARS positions (paid hourly wages):
The department hires between 2-4 graduate STARS (CDS Student Teaching Assistants) on an as-needed basis. The graduate STAR serves as an in-class

teaching assistant, helping students as needed via one-on-one methods, and assists the instructor with grading homework assignments in lower-level classes. This position pays an hourly rate salary based on hours worked per week. The graduate STAR reports to the STARS program coordinator and is asked to attend meetings and training, as required. These positions are advertised via the departmental website and listservs.

Provost Office grants for specific purposes or specific groups:
The University Provost offers a number of funding opportunities for a variety of purposes and groups. These funding sources are explained in detail at https://provost.gmu.edu/academics-and-research/graduate-education/awards-and-grants, and include grants for thesis completion, travel, and access and inclusion.

External funding sources:
For students that do not have department or university support, it is encouraged that they seek support from external funding bodies including NSF, foundations, private funders, or (for foreign students) governments.

Help with External Fellowship applications:
The George Mason Office of Graduate Fellowships is an information and support center dedicated to helping graduate students search for and apply to external fellowships that can help them pay for their graduate studies. Consult with them if you are considering preparing applications to external fellowships and/or sources of funding. Website: https://gradfellows.gmu.edu/

Where to start each process

Process	First point of contact
Filing program of study (preliminary)	CDS Academic Programs Administrator
Reduction of credit	CDS Academic Programs Administrator
General academic questions (e.g. more appropriate course)	Director of Graduate Studies or Research Advisor
General administrative questions (e.g. procedures to follow)	CDS Academic Programs Administrator
Candidacy examination	Committee Chair
Dissertation Proposal	Committee Chair and/or Research Advisor
Dissertation Defense	Committee Chair and/or Research Advisor

Explanation of Course Requirements

The CSI PhD course credit requirements are divided in the following categories: core courses (6 credits), area of emphasis courses (at least 18 credits), electives (up to 23 credits), seminar/colloquium (1 to 3 credits), and dissertation credits (up to 24 credits of CSI 998 and CSI 999 with at least 6 credits of CSI 999).

A minimum of 72 credits are needed to complete the credit requirements of the PhD. It is allowed to complete more than 72 credits, but not advisable (cost, time).

Core courses (6 credits)
Choose two among CSI 690, CSI 695, CSI 702, and CSI 703

Area of emphasis courses (at least 18 credits)
A complete list of courses that count towards this category can be found in the catalog (https://catalog.gmu.edu/colleges-schools/science/computational-data-sciences/computational-sciences-informatics-phd/#requirementstext). This list can change over time (but not often). After choosing your two core courses, the other courses that could be chosen as core courses can count towards area of emphasis. Not all CSI coded classes can count towards area of emphasis (see below).

Electives (up to 23 credits)
These classes can be taken from among the list of valid area of emphasis classes, from other departments in the university, from universities that belong to the Consortium of Universities of the Washington Metropolitan Area (up to 6 credits), or be satisfied as part of a reduction (or transfer of credits). Combinations of these choices are valid to complete the needed credits.

Seminar/Colloquium (1 credit, cannot be counted towards area of emphasis)
These are taken as 1-credit semester classes and involve attending (generally) weekly seminars presenting current research from members of the department and beyond. Up to 3 credits can be used to satisfy the PhD credit requirement.

Dissertation credits (up to 24 credits, with a minimum of 6 credits of CSI 999, cannot be counted towards area of emphasis)
These are labeled CSI 998 and CSI 999. You can take CSI 998 once you have an approved dissertation committee. You are required to take a minimum of 6 credits of CSI 999 and maintain continuous enrollment in it until your final dissertation is submitted to the library. Once you have completed all other requirements, including the 72 credits, but are still working to complete your dissertation, you are considered registered full-time by registering 1 credit of CSI 999 per semester.

Special and Remedial Courses (500-level count towards area of emphasis)
Due to the diversity of backgrounds in the department, some students require preparatory courses to undertake the bulk of the PhD program. Students needing to quickly improve their programming skills are encouraged to take CSI 500 (Computational Science Tools) and CSI 501 (Introduction to Scientific Programming). Students needing to improve their general mathematical skills are encouraged to take CSI 600 (Quantitative Foundations of Computation Science) *although the credits for this course cannot be counted towards the 72 credits of the PhD*. In addition, the department offers special topic courses (normally new courses in trial), coded CSI 709. Per semester, there may be one, several, or none. Topics change.

Explanation of Candidacy Examination

The Candidacy Examination consists of a written, an oral, and (if applicable) a computational part. All parts are mandatory. The Candidacy Examination should determine mastery of fundamental knowledge and familiarity with current research in topics that contribute directly to the student's dissertation research area.

Dissertation committee requirement
To organize the candidacy exam, a student must have identified a research advisor and formed a dissertation committee with the help of the advisor. In case the research advisor is not core faculty of the CDS department, the candidacy exam will require a *committee chair* that is CDS core faculty. If the research advisor is a CDS core member, then they also function as chair of the committee.

Recommendation of Timeline of Candidacy Exam
Students should aim to take their candidacy exams around 1.5 to 2 years from the start of the PhD (for full-time students) and around 2.5 to 3 years (part-time students). Practical considerations make it problematic to take the exams after 2.5 years for full-time students and 3.5 years for part-time students.

Exam rules and procedures

1) The composition of the Candidacy Examination is defined by a list of topics that are reasonably well understood in the scientific and technical community. Material covered may include content from courses taken by the student. After agreement is reached between the student and the committee, the list of exam topics and the proposed exam date are documented on Form #3, which is filed with the CDS office.
2) The written and computational parts of the exam must be submitted to the Director of Graduate Studies by the chair of the student's committee *at least one week prior to the examination.*
3) The written portion will be administered and taken on campus and completed without collaboration, in a room assigned by the committee chair. The exam can be designed so that the student has the option of choosing a subset of questions to answer.
4) After completion of the written portion of the exam, the computational project is assigned, if applicable. In general, the student will have two weeks or less to complete the computational project.
5) The oral exam will be scheduled and administered by the committee, and can include discussion of the student's computational project, the student's proposed dissertation research, and the student's performance on the written portion of the exam.
6) The Candidacy Examination is graded by the committee, which informs the student of the results in a timely manner. The entire exam process should be concluded within one semester.
7) Students have two opportunities to pass the Candidacy Examination. In some cases, only some parts of the exam may require retaking.

Results of Candidacy Examination
Upon successful completion of all parts of the exam, Form #4 is filled and signed by the committee members and the Director of Graduate Studies and added to the student's file by the Academic Programs Administrator along with the graded exam.

Formation of Dissertation Committee

Current rules of the CSI PhD program require at least 4 members in the committee, satisfying the category of *Mason Graduate Faculty*. The following rules have to be observed:

1) At least two members of the committee must be core faculty members of the CDS department.
2) One member has to be the committee chair. The committee chair has to be a core faculty member of the CDS department. The committee chair has the responsibility of organizing examinations for the student.
3) If the student's research advisor is a core faculty member of the CDS department, then this member is also the committee chair.
4) If a member of the committee is not a core faculty member of GMU, they must then be submitted for approval as *Mason Graduate Faculty* through the CDS office. This requires that the committee member possess a PhD, and a CV and possibly other documents are required to complete this process.
5) It is possible to have a fifth member in the dissertation committee. This is normally done when the student's research can benefit from the expertise of an external member of the scientific community. Fifth members need approval of the Dissertation Chair and Director of Graduate Studies.

Who are core faculty members of CDS: The PhD program core faculty is composed of tenured and tenure-track members of the Mason faculty whose primary affiliations are with the CDS Department. **Term faculty members** of CDS can be committee chairs with written permission from the College of Science.

Mason Graduate Faculty status requests are handled by the College of Science. The process starts by filling out the corresponding form and submitting it to the CDS Academic Program Administrator for further processing.

Doctoral Dissertation Proposal

Students must prepare a detailed Dissertation Proposal and present the proposal to their committee for approval. Proposals must be approved by the research advisor and the dissertation committee and will also be reviewed by the Director of Graduate Studies.

The proposal should contain sufficient text, illustrations, tables, equations, and bibliography to represent a clear explanation of the student's proposed research project.

The proposal should include a detailed description of the work to be undertaken; its relation to previous published work; and the scientific, mathematical, and computational methods to be employed. Proposals should also include a clear set of goals, methods, and models, and a discussion of the expected results and their anticipated significance. The discussion should also include any limitations on the generality of the expected results.

Proposals should discuss hardware/software issues including computational tools, techniques, and algorithms to be utilized in the research.

An abstract of the dissertation proposal is submitted on Form #4.

Please note: Advancing to candidacy consists of the following:

- Finishing all coursework
- Passing candidacy exam
- Successfully defending dissertation proposal

Students admitted into the PhD program have six years minus one semester to advance. It is very important that the advancement forms are submitted to the academic programs administrator no later than the date given below. Forms submitted after this date are not guaranteed to be processed in time to meet the advancement deadline. Here are the deadlines for semester advancement:

SEMESTER	PAPERWORK DUE
Spring	November 8
Summer	March 8
Fall	May 25

Doctoral Dissertation

A dissertation is a written piece of original, independent work that demonstrates the doctoral candidate's mastery of the subject matter, methodologies, and conceptual foundations in their chosen field of study. Another term of the dissertation is a thesis.

The content of the dissertation should:

1) be relevant and current in the chosen research area,
2) demonstrate an understanding of theoretical/experimental research and, when applicable, development (as in R&D) issues,
3) demonstrate a mastery of computational tools and techniques,
4) make a research and/or development contribution through either new results and/or new techniques, and
5) be acceptable for publication in a refereed journal.

A *pre-defense in front of the committee* should take place a month prior to the dissertation defense. This allows the committee to make final recommendations and corrections to the student in preparation to the final public defense of the dissertation.

The final dissertation defense is done as a public presentation, arranged with the dissertation committee. Upon the successful completion of the defense, Form #7 is signed and completed by the student and dissertation committee, and submitted to the CDS office for further processing.

Note: The written dissertation volume must be submitted to the Library along with all approval signatures per their requirements and instructions. Guidelines for the content and general format of the doctoral dissertation may be found at https://library.gmu.edu/udts/process.

Checklist for Research Advisors (including Forms)

To help research advisor help their students remain in both good standing and making progress towards the completion of their PhD, the following list of recommendations is offered:

1) **Be aware of the your students Program of Study (*CDS department Form 1*):** this helps to keep an eye of a student's progress and adherence to academic and research plans.
2) **Know your student's deadlines:** be aware of the term they entered the program, how long they have to advance to candidacy and to graduate.
3) **Form your student's committee early:** Since candidacy examination requires the dissertation committee to be formed, please do this with enough time to be ready for the candidate's exam.
4) **Remember the steps involved in moving the student through the PhD requirements:**
    a. **Form dissertation committee** (*fill out CDS department Form 2*)
    b. **Organize and administer candidacy exam** (f*ill out CDS department Forms 3 and 4*); if you are not in CDS, coordinate with the committee chair who must be a CDS tenured or tenure track faculty member)
    c. **Organize Dissertation Proposal approval** by the Dissertation Committee (*fill out CDS department Forms 5 and 6*).
    d. **Organize Pre-defense** about a month before final dissertation defense.
    e. **Organize Dissertation Defense** (*fill out CDS department Form 7*).

Table of forms and requirements

Requirement	Form #
Program of study	1
Dissertation Committee	2
Candidacy exam topics/date	3
Candidacy exam results	4
Dissertation Proposal abstract	4
Dissertation Proposal	5
Approval of Dissertation proposal and advancement to candidacy	6
Doctoral Defense	7

Where to find department forms
All department forms can be found on the CDS department website.

Some other frequently used forms

Re-enrollment form: Required if a PhD student misses two consecutive semesters https://registrar.gmu.edu/wp-content/uploads/GRE-Graduate-Re-Enrollment-8.8.18-1.pdf

Reduction of Credit: Students with a conferred MS/MA degree from a regionally accredited U.S. academic institution may be eligible for a reduction of credit https://registrar.gmu.edu/wp-content/uploads/ROC.pdf

Substitution/Waiver: Request that a requirement in an academic program be met by: 1) a transfer course even though not considered equivalent to a Mason course, or 2) a Mason course not usually applied to meet the requirement. Also, to request that, on some clearly detailed basis, a requirement in the student's academic program be waived (does not waive of give credit hours).
https://registrar.gmu.edu/wp-content/uploads/SWF_0514.pdf

For additional registrar forms, https://registrar.gmu.edu/forms/

Suggested Preliminary Programs of Study by student's areas of interest

HOW TO USE THESE TEMPLATES:
Two templates (below) are provided in this guide to help students begin the process of creating their own Programs of Study. One template is for students with interest in Data Science, and the other for students interested in Modeling and Simulation.

Once the tentative plan is completed, fill it out in a blank Form 1 and hand it in to the Program Administrator for processing. Any academic questions should be addressed to the Director of Graduate Studies.

***Complete this template within the first 4 weeks in the PhD*.**

The **core courses** in each template are aligned with each of the two possible areas of interests and are therefore suggested to be taken as indicated.

The **area of emphasis** courses allow more flexibility and depend on the student's research interests. The courses in each template are those with widest general interest for each area. *However, before advancement to candidacy, the courses can be substituted by others that more closely match the student's research interests, and should be discussed and revised with the student's research advisor*. Changes are possible and even encouraged on the basis of research direction. In some cases, it may be decided that a student should take more than 18 credits of area of emphasis, which would reduce the credits needed in electives and also credits that can be reduced or transferred from graduate work prior to joining the CSI PhD. **An updated list of the courses** with CSI codes taught **in recent years is attached** and updated every term to help create a program of study.

Elective courses: Elective courses should generally be used to emphasize or complement training in relevant areas and techniques that students require for their dissertation. Reduced/transferred credits are almost always counted towards electives and are explicitly written into the program of study. **Taking CSS courses counts as elective courses.**

Remedial skills courses: Students requiring courses to improve or refresh their programming/quantitative skills should consider CSI 500 (Computational Science Tools) which teaches scientific packages such as R, and CSI 501 (Introduction to Scientific Programming) which focuses on programming languages. **Only one 500 level course will count towards the 48 coursework credits. CSI 600 and undergrad level courses will not count for credit. However, if the material is needed it is advisable to take such courses even if credits are not counted.**

Admissions with Provisions: The proposed program of study of students provisionally admitted needs to include all the courses in the provisions in the first 2 semesters. Follow the rest of this guidance for all other courses.

Semester each course is to be taken: The list of courses taught in recent years should help frame a tentative timeframe. Some courses are taught in the Fall, some in Spring, and some are taught in non-consecutive years. All such details must be considered. Please also consider this on courses from other departments.

Sample Coursework- Data Science Template

Core Requirements (6 credits)	Cred Hrs	Institution	Semester	Grade
CSI 695 Scientific Databases	3	GMU		
CSI 703 Scientific & Statistical Viz	3	GMU		
Areas of Emphasis (18 credits)				
CSI 672[1] Statistical Inference	3	GMU		
CSI 674[2] Bayesian Infer Decis Theor	3	GMU		
CSI 678[3] Time Series Analys Forecast	3	GMU		
CSI 747 Nonlinear Optimization Apps	3	GMU		
CSI 777 Princpls of Knowledge Mining	3	GMU		
CSI 873 Comp Learn and Discovery	3	GMU		
Electives (23 credits)				
Seminar/Colloquium (up to 1 credits)	1			
Dissertation Requirements (24 credits with minimum of 6 999s)				
CSI 998 – Doctoral Dissertation Proposal				
CSI 998 – Doctoral Dissertation Proposal				
CSI 998 – Doctoral Dissertation Proposal				
CSI 999 – Doctoral Dissertation				
CSI 999 – Doctoral Dissertation				
CSI 999 – Doctoral Dissertation				

[1] Crosslisted as STAT 652
[2] Crosslisted as OR 664/SYST 664
[3] Crosslisted as STAT 658
[4] Crosslisted as OR 719

Sample Coursework- Modeling Template

Core Requirements (6 credits)	Cred Hrs	Institution	Semester	Grade
CSI 690 Numerical Methods[1]	3	GMU		
CSI 702 High Performance Computing	3	GMU		
Areas of Emphasis (18 credits)				
CSI 678[2] Time Series Anlys Forecast	3	GMU		
CSI 695 Scientific Databases	3	GMU		
CSI 703 Scientific & Statistical Vislz	3	GMU		
CSI 747 Nonlinear Optimization Apps	3	GMU		
CSI 758 Visualiz/Model Complex Sys	3	GMU		
CSI 786 Molecular Dynamics Model	3	GMU		
Electives (23 credits)				
Seminar/Colloquium (up to 1 credits)	1			
Dissertation Requirements				
CSI 998 up to 18 credits plus	24			
CSI 999 minimum of 6 credits				

[1] Crosslisted with MATH 685/OR 682
[2] Crosslisted with

Course Offering Rota

The following list is the active list of courses for CSI. Other courses that may appear in the catalog are likely to be inactive and therefore should not be assumed available unless confirmation that they will be offered is obtained. The CSI program offers courses under various frequencies due to demand, lecturer availability, gradual changes in interest of students, and other factors. Some courses are offered by other departments, but cross-listed with CSI.

Color scheme:

1. Regular black (courses in area of emphasis),
2. **Bold black (core courses)**,
3. Red (courses from other departments crosslisted with CSI),
4. Blue (courses not in area of emphasis),
5. Magenta (Red+Blue categories).

Note: CSI 709 is taught on initiative from individual faculty members and could be taught in any term

Regularity	**Course Code**	**Course Title**	**Even, odd year**
All semesters	CSI 500	Computational Science Tools	
	CSI 501	Introduction to Scientific Programming	
Fall yearly	CSI 590/600	Quantitative Foundations for Computational Sciences	
	CSI 639	Ethics in Scientific Research	
	CSI 672	Statistical Inference	
	CSI 690	**Numerical Methods**	
	CSI 695	**Scientific Databases**	
	CSI 711	Chemical Thermodynamics and Kinetics	
	CSI 777	Principles of Knowledge Mining	
	CSI 780	Principles of Modeling and Simulation in Science	
Spring yearly	CSI 674	Bayesian Inference and Decision Theory	
	CSI 678	Time Series Analysis and Forecasting	
	CSI 702	**High-performance Computing**	
	CSI 703	**Scientific and Statistical Visualization**	
	CSI 739	Topics in Bioinformatics	
	CSI 742	The Mathematics of the Finite Element Method	
	CSI 783	Computational Quantum Mechanics	
	CSI 786	Molecular Dynamics Modeling	
	CSI 973	Mathematical Statistics II	
	CSI 986	Large Scale Molecular Simulations	
Fall bi-yearly	CSI 685	Fundamentals of Materials Science	even
	CSI 721	Computational Fluid Dynamics I	even
	CSI 782	Statistical Mechanics for Modeling and Simulation	even
	CSI 873	Computational Learning and Discovery	odd
Spring bi-yearly	CSI 747	Nonlinear Optimization and Applications	odd
	CSI 758	Visualization and Modeling of Complex Systems	odd
	CSI 789	Image Operators and Analysis	even

Courses by Topic

Modeling and Simulation	Data Science	General	Other	Remedial
CSI 780	CSI 672	CSI 678	CSI 639	CSI 500
CSI 782	CSI 674	CSI 690	CSI 685	CSI 501
CSI 786	CSI 695	CSI 702	CSI 711	CSI 590/600
CSI 986	CSI 703	CSI 747	CSI 721	
	CSI 747		CSI 742	
	CSI 758		CSI 783	
	CSI 777		CSI 789	
	CSI 873			
	CSI 973			

Note: The course **CSI 709** is a general topics code, used by faculty to offer courses that are new or have been requested by students. A CSI 709 course taught in the past on a particular topic does not guarantee the same topic will be taught again in the future, and if it is, its schedule and timing is uncertain.

Reductions and Transfers of Credit

Reductions of credit are a process by which a student who has *completed another graduate degree* before joing the PhD can request that credits from that prior degree be accepted in liu of required credits in the CSI PhD.

Transfers of credit are a process by which a student who has *taken graduate level courses that do not form part of a graduate degree* before joing the PhD can request that those credits be accepted in liu of required credits in the CSI PhD.

Rules for reductions and transfers:

1) normally granted towards the electives and colloquium credit requirement,
2) limited to a maxium of 23 credits,
3) for every course used as part of a reduction or transfer request, the course syllabus must be submitted, and
4) the process should be done in the first year of the student's study.

This process should be initiated with the Academic Programs Administrator.

Key dates for Term

Actions	Fall	Spring	Summer	Comments
File to graduate	Check out Registrar's website for deadlines for online and paper applications: https://registrar.gmu.edu/students/graduation/timelines/			
Draft Dissertation to Committee Chair	1st week of August	1st week of December	1st seek of March	
Draft to Committee	1st week of September	1st Week of January	1st Week of April	
Predefend	1st week of October	1st Week March	1st Week of June	Poll committee members to get date/time then let Academic Programs know so she can schedule a room for predefense
Defend	Mid November	1st Week of April	1st Week of July	Same as above.
Dissertation Title and Abstract to Academic Programs Manager for advertising the defense	Minimum of 2 weeks before defense	Minimum of 2 weeks before defense	Minimum of 2 weeks before defense	You will be sent a template when the time comes to prepare your defense announcement.
Submit Dissertation to Library	Check out library's website for submission procedures and deadlines: http://library.gmu.edu/udts			

IMPORTANT: Frequently visit the University Dissertation and Thesis Services website for procedures/timelines: http://library.gmu.edu/udts

Useful Contacts and Resources

Graduate admissions
masongrad@gmu.edu
703-993-9700
Office Location: 213 Johnson Center (2nd Floor)

Director of Graduate Programs, College of Science
Melissa Hayes
cosgrad@gmu.edu
Suite 1450 Exploratory Hall
703-993-9532
mhayes5@gmu.edu

Office of International Programs and Scholars
(703) 993 2970
https://oips.gmu.edu/

Student Health Services
703-993-2831
https://shs.gmu.edu/

Counseling and Psychological Services
703-993-2380
https://caps.gmu.edu/

Disability Services
703-993-2474
https://ds.gmu.edu/

Office of Compliance, Diversity, and Ethics
(703) 993-1000
https://diversity.gmu.edu/title-ix

Office of the University Registrar (including FERPA)
703-993-2441
https://registrar.gmu.edu/

University Library
703-993-2240
https://library.gmu.edu/

Stearn Center Student Support Resources Webpage
Many of the links above, as well as many other University offices and resources useful students can be found in the link below
https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-support-resources-on-campus/