The University of Georgia

# ARTIFICIAL INTELLIGENCE STUDENT HANDBOOK

(Updated 08/2023)

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# 1. Welcome to Georgia!

Welcome to the University of Georgia's interdisciplinary program in artificial intelligence. This handbook is designed to help you make the most of your stay here. You should also read the *Graduate School Bulletin*, which contains the official regulations governing graduate study.

#### **1.1. The Institute for Artificial Intelligence**

AI is not a department at Georgia; instead, it is an interdisciplinary institute (which is very similar to a department). The Institute for Artificial Intelligence grew out of the AI Programs established in 1987. The AI Programs became the Center for Artificial Intelligence in 1995, and it is now an Institute designed to serve as headquarters for the AB in Cognitive Science, MS in Artificial Intelligence (MSAI), and PhD in Artificial Intelligence (PhD AI) degree programs and for AI research. The Institute is housed within the Franklin College of Arts and Sciences and reports to the Dean of the Franklin College.

#### 1.2. An Interdisciplinary AI Curriculum

The University of Georgia AI curriculum is interdisciplinary. We see AI, not as a self-contained subject, but as a research area at the intersection of several existing fields, including cognitive science, computer science, philosophy, psychology, linguistics, and engineering.

The curriculum reflects this view. Not all of the courses are designed specifically for AI students. We think it is important that an AI student take a linguistics course designed for linguists, philosophy courses designed for philosophers, and so forth, to appreciate each of the fields in its own terms rather than developing the narrow (and mistaken) view that all these other sciences exist only to serve AI.

Details of the curriculum are contained in a later section of this handbook.

#### **1.3. Faculty Fellows**

The following UGA faculty members, with home departments across campus, constitute the AI Faculty Fellows and are eligible to serve on AI thesis committees. Many are willing to serve as major professors. We encourage you to work with any faculty member whose interests coincide with yours.

- Dr. Jason Anastasopoulos (Political Science, Public Administration and Policy)
- Dr. Drew Abney (Psychology)
- Dr. Anna Abraham (Educational Psychology)
- Dr. Soheyla Amirian (Computer Science)
- Dr. Budak Arpinar (Computer Science)
- Dr. Yuri Balashov (Philosophy)
- Dr. Pete Bettinger (Forest Resources)
- Dr. Suchendra Bhandarkar (Computer Science)
- Dr. Jaime Andres Camelio (Associate Dean for Research, Innovation, and Entrepreneurship)
- Dr. Ikseon Choi (Learning, Design, and Technology)
- Dr. Chris Cieszewski (Forest Resources)

- Dr. Jeremy Davis (Philosophy)
- Dr. Prashant Doshi (Computer Science)
- Dr. Mark Ebell (Epidemiology and Biostatistics)
- Dr. Mohamad Kazem Shirani Faradonbeh (Statistics)
- Dr. Jennifer Gay (College of Public Health)
- Dr. John Gibbs (Theatre & Film Studies)
- Dr. Adam Goodie (Psychology)
- Dr. John Hale (Linguistics)
- Dr. Adrienne Hoarfrost (Marine Science)
- Dr. William Hollingsworth (Computer Science)
- Dr. Brian Hopkinson (Marine Sciences)
- Dr. Pengsheng Ji (Statistics)
- Dr. Kyle Johnsen (Electrical and Computer Engineering)
- Dr. Elena Karahanna (Management Information Systems)
- Dr. Yuan Ke (Statistics)
- Dr. In Kee Kim (Computer Science)
- Dr. Jooyoung Kim (Advertising and Public Relations)
- Dr. Bill Kretzschmar (English)
- Dr. Jaewoo Lee (Computer Science)
- Dr. Changying Li (Engineering)
- Dr. Guoming Li (Poultry Science)
- Dr. Ninghao Liu (Computer Science)
- Dr. Tianming Liu (Computer Science)
- Dr. Guoyu Lu (Electrical and Computer Engineering)
- Dr. Ping Ma (Statistics)
- Dr. Gengchen Mai (Geography)
- Dr. Frederick Maier (Institute for Artificial Intelligence)
- Dr. Sudhagar Mani (Chemical, Materials, and Biomedical Engineering)
- Dr. Aaron Meskin (Philosophy)
- Dr. John Miller (Computer Science)
- Dr. Deepak Mishra (Geography)
- Dr. Beshoy Morkos (College of Engineering)
- Dr. Neal Outland (Psychology)
- Dr. Ramviyas Parasuraman (Computer Science)
- Dr. Roberto Perdisci (Computer Science)
- Dr. Shannon Quinn (Computer Science)
- Dr. Lakshmish Ramaswamy (Computer Science)
- Dr. Khaled Rasheed (Computer Science)
- Dr. Margaret Renwick (Linguistics)

- Dr. Carolina Salge (Management Information Systems)
- Dr. Juliet Sekandi (Epidemiology & Biostatistics)
- Dr. Jin Sun (Computer Science)
- Dr. Kimberly Van Orman (Institute for Artificial Intelligence)
- Dr. Javad Mohammadpour Velni (Electrical and Computer Engineering)
- Dr. Xianqiao Wang (College of Engineering)
- Dr. Sarah Wright (Philosophy)
- Dr. Xiaoming Zhai (Mathematics and Science Education)

# **Emeritus Faculty**

- Dr. O. Bradley Bassler (Philosophy)
- Dr. Robert Burton (Philosophy)
- Dr. Michael Covington (Institute for Artificial Intelligence)
- Dr. Don Potter (Computer Science)
- Dr. Ron McClendon (Biological and Agricultural Engineering)
- Dr. Donald Nute (Philosophy)
- Dr. Raymond Woller (Philosophy)
- Dr. Paula Schwanenflugel (Professional Studies)

Your major professor and advisory committee will offer guidance as you research and prepare your written dissertation or thesis. Having a good relationship with them is fundamental to your success. Start looking for a thesis topic as soon as you arrive. Approach faculty fellows to serve on your committee before you begin your second year. Communicate frequently with them to ensure that you are making adequate progress.

# 1.4. Essential Lab and Computer Policies

<u>Offices and Laboratories</u>: AI graduate students typically do not have private offices but do have access to shared lab space and computers. Equipment in the AI offices and lab spaces is to be used only by AI faculty fellows, AI employees, and AI students. Use by guests requires the permission of a faculty member. After working hours and on weekends, the only people permitted in offices and lab spaces are those who have been granted access and their immediate families.

**Computers:** The AI Institute, in conjunction with Franklin OIT, manages a set of PCs and servers for research and internal use. In most cases, AI students use their UGA MyID and password to log into them. However, for some machines, separate accounts must be created. AI students requiring access should request an account from the network administrator.

**Email:** The University will issue you an e-mail account on UGAMail and require that you use it for University-related correspondence. You can arrange for your e-mail to be forwarded elsewhere, but messages will be sent to your UGA address, and you are responsible for receiving them.

A list of general policies governing the use of lab space and computers is given below.

- (1) No food or drink in the common areas.
- (2) Clean up after yourself. Keep your office space clean and leave all common-use machines, printers, etc. ready for the next person to use.
- (3) Read all notices posted in the lab and follow the policies stated there.
- (4) Current software licenses allow our software to be used on our machines only. We will **m** provide software for home computers.
- (7) Never give passwords to other people; never use a password that is not your own.
- (8) Never engage in, assist, or tolerate any form of unauthorized computer access.
- (9) Don't install software on Institute computers, even if you can. Students typically do not have administrative access to Institute machines. If you need additional software installed, please contact the technical support staff.
- (10) Student Use of Institute Equipment for Outside Projects:

With prior approval from the Director, students may use Institute equipment (this includes any network components and connections) for internships or other outside projects directly related to their educational programs provided such use

- does not violate University policies,
- will not impose additional maintenance requirements on Institute staff,
- will not reduce the reliability of Institute systems,
- will not compromise security for Institute staff, network, or equipment,
- will not be used to provide services to an outside entity, and
- will not be used for any commercial gain to the student or outside entity.

Students must keep in mind that the use of University equipment for an outside project may affect ownership, patent rights, and other intellectual property rights related to the project or its outcome. In addition, equipment may be taken out of service or changed without prior notice. It is the student's responsibility to be prepared for unforeseen disruptions.

# 2. PhD in Artificial Intelligence

University of Georgia Graduate School policies and requirements apply in addition to (and, in cases of conflict, take precedence over) those described here. It is essential that graduate students familiarize themselves with Graduate School policies—including minimum and continuous enrollment and other policies—contained in the <u>Graduate School Bulletin</u>.

Students should also familiarize themselves with <u>Graduate School Dates and Deadlines</u> relevant to the degree.

#### 2.1. Admissions

To enter the Doctor of Philosophy in Artificial Intelligence, you must apply online through the UGA Graduate School web page. There is an application fee, which must be paid at the time the application is submitted.

There are several items which must be included in the application:

- Standardized test scores, including the GRE.
- 3 letters of recommendation, preferably from university faculty and/or professional supervisors. We encourage you to submit the letters to the graduate school online as you complete the application process.
- A sample of scholarly writing, in English. This can be anything you've written but should give an accurate indication of your writing abilities. The writing sample can be a term paper, research report, journal article, published paper, college paper, etc.
- A completed Application for Graduate Assistantship, if you are interested in receiving funding.
- A Statement of Purpose.
- A Resume or Curriculum Vitae.

Further information on program admissions is found in the AI Institute <u>Frequently Asked</u> <u>Questions (FAQ)</u>.

International Students should also review the links on the <u>Information for International Students</u> page for additional information relevant to the application process.

# 2.2. Degree Requirements

Students of the doctoral program must complete a minimum of 40 hours of graduate coursework and 6 hours of dissertation credit (for a total of 46 credit hours), pass a comprehensive examination, and write and defend a dissertation. In addition, the University requires that all first-year graduate students enroll in a 1-credit-hour GradFirst seminar. Each of these requirements is described in greater detail below.

The degree program is offered using an in-person format, and classes are in general scheduled for full-time students. There are currently no special provisions for part-time, online, or offcampus students. Students are expected to attend all meetings of classes for which they are registered.

# 2.2.1. Program of Study

The Program of Study must include a minimum of 40 hours of graduate course work and a minimum of 6 hours of dissertation credit. Of the 40 hours of graduate course work, at least 20 hours must be 8000-level or 9000-level hours.

#### **Required Courses**

The following courses must be completed unless specifically waived for students entering the program with a master's degree in Artificial Intelligence or a related field, or for students with substantially related graduate course work. All waived credits may be replaced by an equal number of doctoral research or doctoral dissertation credits (ARTI 9000, Doctoral Research or ARTI 9300, Doctoral Dissertation). Substitutions must be approved for a particular student by that student's Advisory Committee and by the Graduate Coordinator.

- PHIL/LING 6510 Deductive Systems (3 hours)
- CSCI 6380 Data Mining (4 hours) or CSCI 8950 Machine Learning (4 hours)
- CSCI/PHIL 6550 Artificial Intelligence (3 hours)
- ARTI 6950 Faculty Research Seminar (1 hour)
- ARTI/PHIL 6340 Ethics and Artificial Intelligence (3 hours)

#### **Elective Courses**

In addition to the required courses above, at least 6 additional courses must be taken from Groups A and Group B below, subject to the following requirements.

- At least 2 courses must be taken from Group A, from at least 2 areas.
- At least 2 courses must be taken from Group B, from at least 2 areas.
- At least 3 courses must be taken from a single area comprising the student's chosen area of emphasis.

Since not all courses have the same number of credit hours, Ph.D. students may need to take additional graduate courses to complete the 40 hours.

# **GROUP** A

AREA 1: Artificial Intelligence Methodologies

- <u>CSCI 6560 Evolutionary Computing (4 hours)</u>
- CSCI 8050 Knowledge Based Systems (4 hours)
- <u>CSCI/PHIL 8650 Logic and Logic Programming (4 hours)</u>
- CSCI 8920 Decision Making Under Uncertainty (4 hours)
- <u>CSCI/ENGR 8940 Computational Intelligence (4 hours)</u>
- <u>CSCI/ARTI 8950 Machine Learning (4 hours)</u>

AREA 2: Machine Learning and Data Science

- CSCI 6360 Data Science II (4 hours)
- <u>CSCI 8360 Data Science Practicum (4 hours)</u>
- <u>CSCI 8945 Advanced Representation Learning (4 hours)</u>
- <u>CSCI/ARTI 8950 Machine Learning (4 hours)</u>
- CSCI 8955 Advanced Data Analytics (4 hours)
- CSCI 8960 Privacy-Preserving Data Analysis (4 hours)

AREA 3: Machine Vision and Robotics

- CSCI/ARTI 6530 Introduction to Robotics (4 hours)
- CSCI 6800 Human Computer Interaction (4 hours)
- CSCI 6850 Biomedical Image Analysis (4 hours)
- CSCI 8850 Advanced Biomedical Image Analysis (4 hours)
- CSCI 8820 Computer Vision and Pattern Recognition (4 hours)
- CSCI 8530 Advanced Topics in Robotics (4 hours)
- <u>CSCI 8535 Multi Robot Systems (4 hours)</u>

# **GROUP B**

AREA 4: Cognitive Modeling and Logic

- PHIL/LING 6300 Philosophy of Language (3 hours)
- PHIL 6310 Philosophy of Mind (3 hours)
- <u>PHIL/LING 6520 Model Theory (3 hours)</u>
- PHIL 8310 Seminar in Philosophy of Mind (max of 3 hours)
- PHIL 8500 Seminar in Problems of Logic (max of 3 hours)
- PHIL 8600 Seminar in Metaphysics (max of 3 hours)
- <u>PHIL 8610 Epistemology (max of 3 hours)</u>
- <u>PSYC 6100 Cognitive Psychology (3 hours)</u>
- PSYC 8240 Judgment and Decision Making (3 hours)
- CSCI 6860 Computational Neuroscience (4 hours)

AREA 5: Language and Computation

- ENGL 6885 Introduction to Humanities Computing (3 hours)
- LING 6021 Phonetics and Phonology (3 hours)
- LING 6080 Language and Complex Systems (3 hours)
- LING 6570 Natural Language Processing (3 hours)
- LING 8150 Generative Syntax (3 hours)
- LING 8580 Seminar in Computational Linguistics (3 hours)
- PHIL/LING 6300 Philosophy of Language (3 hours)

AREA 6: Artificial Intelligence Applications

- ELEE 6280 Introduction to Robotics Engineering (3 hours)
- ENGL 6826 Style: Language, Genre, Cognition (3 hours)
- ENGL/LING 6885 Introduction to Humanities Computing (3 hours)
- FORS 8450 Advanced Forest Planning and Harvest Scheduling (3 hours)
- INFO 8000 Foundations of Informatics for Research and Practice
- <u>MIST 7770 Business Intelligence (3 hours)</u>

Students may under special circumstances use up to 6 hours from the following list to apply towards the Electives group requirement.

• ARTI 8800 Directed Readings in Artificial Intelligence

• ARTI 8000 Topics in Artificial Intelligence

Other courses may be substituted for those on the Electives lists, provided the subject matter of the course is sufficiently related to artificial intelligence and consistent with the educational objectives of the Ph.D. degree program. Substitutions can be made only with the permission of the student's Advisory Committee and the Graduate Coordinator.

# 2.2.2. <u>GradFIRST</u>

In addition to the specific PhD program requirements, all first year UGA graduate students must enroll in a 1 credit-hour GRSC 7001 (GradFIRST) seminar which provides foundational training in research, scholarship, and professional development. Students may enroll in a section offered by any department, but it is recommended that they enroll in a section offered by AI Faculty Fellows for AI students. More information is available at the Graduate School website.

# 2.2.3. Core Competency

Core competency must be exhibited by each student and certified by the student's advisory committee. This takes the form of achievement in the required courses of the curriculum. Students entering the Ph.D. program with a previous graduate degree sufficient to cover this basic knowledge will need to work with their advisory committee to certify their core competency. Students entering the Ph.D. program without sufficient graduate background to certify core competency must take at least three of the required courses, and then pursue certification with their advisory committee. A grade average of at least 3.56 (e.g., A-, B+) must be achieved for three required courses (excluding ARTI 6950). Students below this average may take the fourth required course and achieve a grade average of at least 3.32 (e.g., A-, B+, B+, B).

Core competency is certified by the unanimous approval of the student's Advisory Committee as well as the approval by the Graduate Coordinator. Students are strongly encouraged to meet the core competency requirement within their first three enrolled academic semesters (excluding summer semester). Core Competency Certification must be completed before approval of the Final Program of Study.

# 2.2.4. Comprehensive Examination

Each student of the doctoral program must pass a Ph.D. Comprehensive Examination covering the student's advanced coursework. The examination consists of a written part and an oral part. Students have at most two attempts to pass the written part. The oral part may not be attempted unless the written part has been passed.

# 2.2.5. Admission to Candidacy

The student is responsible for initiating an application for admission to candidacy once all requirements, except the dissertation prospectus and the dissertation, have been completed.

# 2.2.6. Dissertation and Dissertation Credit Hours

In addition to the coursework and comprehensive examination, every student must conduct research in artificial intelligence under the direction of an advisory committee and report the results of his or her research in a dissertation acceptable to the Graduate School. The dissertation must represent originality in research, independent thinking, scholarly ability, and technical

mastery of a field of study. The dissertation must also demonstrate competent style and organization. While working on his/her dissertation, the student must enroll for a minimum of 6 credit hours of ARTI 9300 Doctoral Dissertation spread over at least 2 semesters.

#### 2.2.7. Advisory Committee

Before the end of the third semester, each student admitted into the program should approach relevant faculty members and form an advisory committee. Until the committee is formed, the student will be advised by the graduate coordinator. The committee consists of a major professor and two other faculty members, as follows:

- The major professor and at least one other member must be full members of the Graduate Program Faculty.
- The major professor and at least one other member must be Institute for Artificial Intelligence Faculty Fellows.

Deviations from the 3-member advisory committee structure, including having more members, are in some cases permitted but must conform to Graduate School policies.

#### 2.2.8. Prospectus

The major professor and advisory committee shall guide the student in planning the dissertation. The committee shall agree upon, document, and communicate expectations for the dissertation. These expectations may include publication or submission requirements but should not exceed reasonable expectations for the given research domain. During the planning stage, the student will prepare a dissertation prospectus in the form of a detailed written dissertation proposal. It should clearly define the problem to be addressed, critique the current state-of-the-art, and explain the contributions to research expected by the dissertation work. When the major professor certifies that the dissertation prospectus is satisfactory, it must be formally considered by the advisory committee in a meeting with the student. This formal consideration may not take the place of the comprehensive oral examination.

Approval of the dissertation prospectus signifies that members of the advisory committee believe that it proposes a satisfactory research study. Approval of the prospectus requires the agreement of the advisory committee with no more than one dissenting vote as evidenced by their signing an appropriate form to be filed with the graduate coordinator's office.

#### 2.2.9. Graduation Requirements - Forms and Timeline

Before the end of the third semester in residence, a student must begin submitting to the Graduate School, through the graduate coordinator, the following forms: (i) a Preliminary Program of Study Form and (ii) an Advisory Committee Form. The Program of Study Form indicates how and when degree requirements will be met and must be formulated in consultation with the student's major professor. An Application for Graduation Form must also be submitted directly to the Graduate School.

Forms and Timing must be submitted as follows:

- 1. Advisory Committee Form (G130)-end of third semester
- 2. Core Competency Form (Internal to IAI)—beginning of fourth semester
- 3. Preliminary Doctoral Program of Study Form—Fourth semester

- 4. Final Program of Study Form (G138)—before Comprehensive Examination
- 5. Application for Admission to Candidacy (G162)-after Comprehensive Examination
- 6. Application for Graduation Form (on Athena)—beginning of last semester
- 7. Approval Form for Doctoral Dissertation (G164)—last semester
- 8. ETD Submission Approval Form (G129)—last semester

Students should frequently check the Graduate School Dates and Deadlines webpage to ensure that all necessary forms are completed in a timely manner.

# 3. The Master of Science in Artificial Intelligence (MSAI)

University of Georgia Graduate School policies and requirements apply in addition to (and, in cases of conflict, take precedence over) those described here. It is essential that graduate students familiarize themselves with Graduate School policies—including minimum and continuous enrollment and other policies—contained in the *Graduate School Bulletin*.

Students should also familiarize themselves with <u>Graduate School Dates and Deadlines</u> relevant to the degree.

#### 3.1. Admissions

No specific undergraduate major is required for admission, but admission is competitive. We are looking for students with a strong preparation in one or more relevant background areas (psychology, philosophy, linguistics, computer science, logic, engineering, or the like), a demonstrated ability to handle all types of academic work (from humanities to mathematics), and an excellent command of written and spoken English.

To enter the Master of Science in Artificial Intelligence, you must apply online through the UGA Graduate School web page. There is an application fee, which must be paid at the time the application is submitted.

There are several items which must be included in the application:

- Standardized test scores, including the GRE.
- 3 letters of recommendation, preferably from university faculty and/or professional supervisors. We encourage you to submit the letters to the graduate school online as you complete the application process.
- A sample of scholarly writing, in English. This can be anything you've written but should give an accurate indication of your writing abilities. The writing sample can be a term paper, research report, journal article, published paper, college paper, etc.
- A completed Application for Graduate Assistantship, if you are interested in receiving funding.
- a Statement of Purpose; and
- a Resume or Curriculum Vitae.

Further information on program admissions is found in the AI Institute <u>Frequently Asked</u> <u>Questions (FAQ)</u>.

International Students should also review the links on the <u>Information for International Students</u> page for additional information relevant to the application process.

#### **3.2. Advisory Committees**

Before the beginning of the third semester of residence, each student should select an advisory committee. This consists of a major professor and two other faculty members, as follows:

- The major professor and at least one other member must be full members of the Graduate Program Faculty.
- The major professor and at least one other member must be Institute for Artificial Intelligence Faculty Fellows.

By the beginning of the fourth semester, each student must submit to the Graduate School a Program of Study form indicating how and when degree requirements will be met.

Additional information regarding the submission of necessary forms is provided in Sec 3.3.

Before the advisory committee is formed, each student is advised by the Graduate Coordinator. In addition, the Graduate Coordinator must approve all programs of study.

#### **3.3. Degree Requirements**

For the Master of Science in Artificial Intelligence, students must complete a minimum of 30 hours of graduate coursework (their Program of Study), pass an oral comprehensive exam, and write and defend a research thesis. In addition to these 30 hours, the University requires that all first-year graduate students enroll in a 1-credit-hour *GradFirst* seminar. Each of these requirements is described in greater detail below.

The degree program is in-person, and classes are in general scheduled for full-time students. There are currently no special provisions for part-time, online, or off-campus students. Students are expected to attend all meetings of classes for which they are registered.

#### **3.3.1.** Program of Study

The Program of Study must include a minimum of 30 hours of graduate coursework including 3 hours of master's thesis (ARTI 7300). Of the 30 hours of coursework, at least 12 hours (excluding ARTI 7300 and ARTI 7000) must consist of courses open only to graduate students.

#### **Required Courses (11 Hours)**

The following courses must be included on the Program of Study unless waived for a particular student by that student's Advisory Committee and by the Graduate Coordinator:

- <u>PHIL/LING 6510</u> Deductive Systems (3 hours)
- CSCI 6380 Data Mining (4 hours) or CSCI/ARTI 8950 Machine Learning (4 hours)
- <u>CSCI/PHIL 6550</u> Artificial Intelligence (3 hours)
- <u>ARTI 6950</u> Research Seminar (1 hour)

#### **SELECT Courses (8 + 6 Hours)**

At least 14 hours taken from the following groups must appear on the Program of Study. Of the 14 hours, 8 must come from Group A and 6 must come from Group B.

# **GROUP** A (8 hours)

- CSCI 6330 AI and the Web (4 hours)
- CSCI 6360 Data Science II (4 hours)
- CSCI/ARTI 6530 Introduction to Robotics (4 hours)
- CSCI/ARTI 6540 Symbolic Programming (3 hours)
- <u>CSCI 6560 Evolutionary Computing (4 hours)</u>
- CSCI 6600 Reinforcement Learning (3 hours)
- CSCI 6800 Human Computer Interaction (4 hours)
- CSCI 8050 Knowledge Based Systems (4 hours)
- <u>CSCI 8360 Data Science Practicum (4 hours)</u>
- CSCI 8380 Advanced Topics in Information Systems (4 hours)

- CSCI 8535 Multi Robot Systems (4 hours)
- CSCI/PHIL 8650 Logic and Logic Programming (4 hours)
- CSCI 8820 Computer Vision and Pattern Recognition (4 hours)
- CSCI 8860 Biomedical Informatics (4 hours)
- CSCI 8920 Decision Making Under Uncertainty (4 hours)
- CSCI/ENGR 8940 Computational Intelligence (4 hours)
- <u>CSCI/ENGR 8945 Advanced Representation Learning (4 hours)</u>
- <u>CSCI/ARTI 8950 Machine Learning (4 hours)</u>
- CSCI 8955 Advanced Data Analytics (4 hours)
- CSCI 8960 Privacy-Preserving Data Analysis (4 hours)
- ENGL 6885 Introduction to Humanities Computing (3 hours)
- FORS 8450 Advanced Forest Planning and Harvest Scheduling (3 hours)
- LING 6570 Natural Language Processing (3 hours)
- MIST 7730 Business Intelligence Systems (3 hours)
- <u>MIST 7770 Business Intelligence</u> (3 hours)

# **GROUP B** (6 hours)

- ENGL/LING 6886 Text and Corpus Analysis (3 hours)
- EPSY 8620 The Creative Brain (3 hours)
- LING 8021 (formerly 6021) Phonetics and Phonology (3 hours)
- LING 6022 Advanced Phonetics and Phonology (3 hours)
- LING 6160 Compositional Semantics (3 hours)
- LING 8120 Morphology (3 hours)
- LING 8150 Generative Syntax (3 hours)
- LING 8160 Advanced Generative Syntax (3 hours)
- LING 8180 Seminar in Phonetics/Phonology (max of 3 hours)
- <u>PHIL/EETH 6250 Philosophy of Technology (3 hours)</u>
- PHIL/LING 6300 Philosophy of Language (3 hours)
- PHIL 6310 Philosophy of Mind (3 hours)
- PHIL 6340 Ethics and AI (3 hours)
- PHIL 6410 Philosophy of Natural Science (3 hours)
- <u>PHIL/LING 6520 Model Theory (3 hours)</u>
- PHIL 6530 Philosophy of Math (3 hours)
- PHIL/LING 8300 Seminar in Philosophy of Language (max of 3 hours)
- <u>PHIL 8310 Seminar in Philosophy of Mind (max of 3 hours)</u>
- PHIL 8500 Seminar in Problems of Logic (max of 3 hours)
- PHIL 8600 Seminar in Metaphysics (max of 3 hours)
- PHIL 8610 Epistemology (max of 3 hours)
- PSYC 6100 Cognitive Psychology (3 hours)
- PSYC 8240 Judgment and Decision Making (3 hours)

Students may under special circumstances use up to 4 hours from the following list to apply towards the SELECT group requirement.

- <u>ARTI 8800</u> Directed Readings in Artificial Intelligence
- <u>ARTI 8000 Topics in Artificial Intelligence</u>

Other courses may be substituted for those on the SELECT list, provided the subject matter of the course is related to AI and consistent with the objectives of the MS degree program. Substitutions can be made only with the permission of the student's advisory committee and the Graduate Coordinator. Students attempting a substitution without prior permission run the risk of having to fulfill the normal requirements regardless of their graduation, employment, or other degree program status. Substitutions are reserved for only the most special of cases.

#### Thesis and Research Hours (3 + 2 Hours)

At least 3 hours of ARTI 7300 must appear on the Program of Study. To reach 30 hours, up to 2 hours of ARTI 7000 (Master's Research) may be used. Additional hours from SELECT list courses may also be used. Regardless, the Program of Study must include at least 30 hours of graduate coursework.

# 3.3.2. GradFIRST

In addition to the Program of Study requirements, all first-year graduate students must enroll in a 1 credit-hour GRSC 7001 (GradFIRST) seminar which provides foundational training in research, scholarship, and professional development. Students may enroll in a section offered by any department, but it is recommended that they enroll in a section offered by AI Faculty Fellows for MSAI students.

#### 3.3.3. Comprehensive Oral Examination

Every MSAI student must pass a comprehensive oral examination on their Program of Study before defending their thesis. The comprehensive examination is open to the University community. Students will answer questions from both their advisory committee and the audience. Each committee member votes to pass or fail the student, and at least two passing votes are required for final approval.

Students nearing the end of their coursework are advised to schedule the comprehensive oral examination soon after completing all necessary coursework. It is **strongly encouraged** that the compressive exam take place on a separate day than the thesis defense.

If the examination is failed, at least four weeks must elapse before a re-examination is given.

# 3.3.4. Thesis & Thesis Defense

In addition to the coursework and comprehensive examination, each student must conduct research in artificial intelligence under the direction of an advisory committee and report the results of his or her research in a thesis acceptable to the Graduate School.

The Institute for AI accepts either the manuscript style thesis or the regular research style thesis. With the manuscript style thesis there is a requirement of (at least) two publications in a national level conference or journal.

When the thesis is finished and has the major professor's approval, copies of it are distributed to the student's advisory committee and a final examination is scheduled.

Scheduling of the final examination is subject to the following constraints:

- The thesis must be submitted to the advisory committee with sufficient time for them to review it. Typically, this is at least two weeks before the examination.
- The Graduate Coordinator must be notified of the examination's time and place.
- The examination shall not be held on a weekend or state holiday.
- The candidate must be enrolled during the semester in which the examination is held.
- The candidate must satisfy all other Graduate School requirements.

It is the responsibility of the student to determine when the advisory committee will be available and will have time to examine the thesis. When a member of the committee is unavailable, the Graduate Coordinator may appoint a replacement. It is not appropriate to change major professors when the thesis is finished or well under way.

The thesis defense is open to the University community. During it, the student will first give a summary of the thesis and then face questions from the advisory committee and audience.

Each committee member votes to pass or fail the student's defense. Separately, each committee member may approve the written thesis, approve it with suggested changes, or else disapprove it. At least two of the three committee members must approve the written thesis, and at least two passing votes are required for final approval of the thesis defense.

#### **3.3.5.** Failed Thesis or Thesis Defense

If the written thesis is disapproved by the advisory committee, at least four weeks must elapse before it is submitted to the advisory committee again.

If the thesis defense is failed, at least four weeks must elapse before a re-examination is given.

# 4. Graduate School Policies

Students should refer to the <u>*Graduate School Bulletin*</u> for University policies relating to minimum enrollment, programs of study, application for graduation, and the like. The following are especially relevant.

# 4.1. Continuous Enrollment

To maintain continuous enrollment until they graduate, UGA graduate students must register for at least 3 credit hours in at least two of the fall, spring, and summer semesters of each year. Students on assistantship must register for at least 12 graduate credit hours in the fall and spring semesters and 9 hours in the summer.

Students failing to maintain continuous enrollment will no longer be able to register for classes and must reapply to the degree program as well as pay a fee in order to be reinstated.

# 4.2. Enrollment During the Final Semester

Graduate students must register for at least 3 graduate credit hours during the semester in which degree requirements are met.

# **4.3.** Forms and Deadlines

In order to graduate, students must first submit to the Graduate School both a completed Program of Study form and an Application for Graduation form. The deadlines for both are posted by the Graduate school each year. Also, an approved Advisory Committee form must be on file with the Graduate School by the time they submit the Program of Study.

It is the responsibility of the student to meet the Graduate School deadlines and ensure that the proper paperwork is submitted. Important dates are deadlines for the Graduate School are posted at the following site.

https://grad.uga.edu/index.php/current-students/important-dates-deadlines/

# 5. Additional Policies

#### 5.1. Graduate Assistantships

The following policies shall apply to graduate assistantships unless pre-empted by other policies imposed by the source of funding:

- 1. Graduate research assistants are chosen by a committee designated by the AI Faculty. In the case of externally funded assistantships, the assistants are chosen by the faculty members responsible for the grant funds.
- 2. Each assistant is assigned a supervisor and a specific number of hours of work per week.
- 3. It is up to the supervisor whether a graduate assistant is required to work when classes are not in session. The University has the right to require assistants to work throughout the periods for which they are paid.
- 4. An assistantship can be revoked at any time because of unsatisfactory performance of assigned work or failure to make satisfactory progress towards the degree.

#### 5.2. Progress Review

Each semester the Graduate Coordinator reviews the academic progress of students in the degree programs. This includes coursework for the Program of Study, dissertation/thesis exams, dissertation/thesis progress, Graduate School paperwork preparation, and professional accomplishments beyond course and program requirements. Instances of unsatisfactory progress will be forwarded to the Admissions Committee and the student's major professor. Committee recommendations may include dismissal from the degree program or non-renewal of assistantships.

Satisfactory progress means successful completion of coursework; resolution of incomplete grades; passing of the comprehensive examination and thesis defense; thesis/dissertation preparation; or significant research towards the thesis (e.g., exhibited by publications).

Students enrolled in an AI degree program are advised to maintain at least a 3.5 grade point average on AI related coursework.

#### **5.3. Grievance Procedures**

Students have the right to appeal decisions affecting them. The following grievance procedures shall apply to the conduct of the programs, assistantships, and courses with the ARTI prefix. Students are reminded that the Institute for AI does not necessarily have control over externally funded assistantships.

Before filing a formal appeal, the student shall attempt to resolve the dispute by discussing the decision with the faculty member or members responsible for it.

# 5.4. Grade Appeals

- 5. The following policy applies to students registered in courses under the ARTI prefix. Grades in courses with other prefixes can be appealed in the appropriate department.
- 6. The University requires that grades be assigned equitably but does not specify a specific numerical procedure for computing them. The University's grading system is described more fully in the Undergraduate and Graduate Bulletins.

- 7. The purpose of a grade appeal is to correct errors or inequities in grading. Every appeal must therefore point out a specific error or inequity that appears to have occurred. Grades shall be changed only to correct definite errors, not to negotiate a compromise between differing opinions.
- 8. All errors or inequities discovered during a grade appeal shall be corrected; the student's grade may end up higher, lower, or unchanged.
- 9. Before appealing a disputed grade, the student should always discuss it with the instructor. If the student and instructor are unable to resolve their disagreement, the next step is for the student to appeal the grade, in writing, to the Director (or, if the Director is the instructor, then to the Graduate Coordinator), pointing out specific evidence of an error or inequity.
- 10. The Director (or, where applicable, the Graduate Coordinator) will then consult the instructor and determine whether correcting the alleged error would actually change the grade on the student's transcript. If not, the grade appeal is moot, and no further action is necessary.
- 11. Optionally, at this stage the Director or Graduate Coordinator can meet with the student and the instructor and attempt to settle the dispute by mutual agreement.
- 12. The next step is to convene a grade appeals committee consisting of the Director or Graduate Coordinator and two members of the AI Faculty. At least one of these two committee members must be nominated or approved by the student and at least one must be nominated or approved by the instructor.
- 13. Final action in a grade appeal is to be determined by the appeals committee after hearing the student's appeal and the instructor's response to it. If the student disputes the result, graduate students can appeal to the Graduate School, and undergraduates can appeal to the College of Arts and Sciences.
- 14. Additional details about grade appeals can be found at the College of Arts and Sciences web site: <u>https://osas.franklin.uga.edu/guidelines-student-appeals</u>.

#### **5.5. Academic Honesty Policies**

All PhD AI and MSAI students must strictly honor the academic honesty policies of the University. Additional information of the policies may be found at the following site.

https://honesty.uga.edu/Academic-Honesty-Policy/

#### **5.6. Departing Students**

Departing students must be prompt in clearing out their offices, turning in their keys, and relinquishing their AI lab computer accounts. The deadline for doing these things is:

- One week after the end of exams in the last semester if the student is graduating.
- Immediately upon ceasing to be actively registered in the degree program if the student leaves in some other way.

As soon as the deadline has passed, the Institute for Artificial Intelligence will deactivate computer accounts and delete files.

Graduates who want a continuing relationship with the Institute for AI can apply to be AI External Fellows if they are doing AI research under the sponsorship of a Faculty Fellow.