

Doctor of Science in Information Technology  
Program Policies and Procedures  
Towson University, Towson, MD 21252

Edited By  
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November 2, 2004

Modified March 15, 2005

- a student must pass only 4 out of 5 areas as described in the qualifying examination section

Modified May 16, 2005

- spelling

Modified February 24, 2006

- qualifying exam student appeal process

Modified September 25, 2006

- Roll-over admissions, Student Status

Modified November 17, 2006

- Qualifying Examination Policy (Section 7)
- Doctoral Thesis Registration (Section 4)

Modified May 4, 2007

- Doctoral Defense Policy Section 6.3

Modified September 28, 2007

- Doctoral Dissertation Committee Section 6.1
- Course work Section 2.1

Modified August 27, 2008

- Registration of Dissertation Section 4.0
- Roles and Responsibilities -- Section 6.2
- Qualifying Exam Guidelines (Items 1, 3 – Section 7.0 )

Modified September 15, 2009

AIT name change to IT (approved by MHEC)

Modified November 11, 2009

Student Status Section 1.3

# 1. Program Requirements

## **1.1 Admission Requirements**

Completion of Bachelor's/Master's Degree in Information Technology, Computer Information Systems, Computer Science or a closed related area such as (CS, AIT, CIS, IS, IT, CE, and EE with a GPA of 3.0 or higher.

Admissions are on a roll over basis; however, for international students all admission credentials must be submitted by October 1, for spring semester, and by April 15, for fall semester (no summer admissions). Send the following admission materials to the Graduate School Office, Towson University, 8000 York Rd, Towson, MD 21252.

The following documents are needed for admission:

- Completed graduate school application form
- Two written recommendation letters in addition to the standard forms (preferably from academic institutions indicating their research capabilities)
- Resume
- Work Location/Address/Contact Information
- Statement Letter indicating: research interests, summary of thesis/project done at graduate level, career interests, objectives and goals, and any work related accomplishments (1-3 pages)
- Undergraduate and graduate transcripts
- International students must have a TOEFL score of 550.

## **1.2 Degree Requirements (75 Credits beyond B.S/B.A Degree)**

- 1) Completion of requirements for a Master's degree (33 credits) in Information Technology, or Computer Science.
  - Students admitted to the Doctoral program with Master's degree in Applied Information Technology, Information Technology, Computer Information Systems, Information Science, Computer Science, or any other closely related areas do not have to complete the above requirement.
- 2) Completion of minimum of 18 additional graduate-level units from among the list of courses for the Doctoral program as recommended by the program committee. For those applicants whose master's degree is not in Applied Information Technology, Computer Information Systems, Information Systems, or Computer Science, the program committee may assign additional courses to be completed on individual cases. Annual GPA in course work must be at least 3.5.
- 3) Satisfactory completion of written qualifying examination (maximum of two attempts).
- 4) Satisfactory completion of Dissertation requirements. (24 units).

- 5) Satisfactory completion of Dissertation defense.

### **1.3 Student Status**

Full-time student status for a doctoral student requires a minimum of 9 credit load registration during the fall and spring semesters. There is no requirement for the summer session. If a student registers less than 9 credits, they can use a place-holder course (1-8 credits) as provided by the graduate school with no additional tuition cost. Contact Mark Jacque for further details (mjacque@towson.edu).

## **2. Course Work Requirements**

### **2.1 Course Assignment**

A minimum of six courses required beyond M.S course work. These courses are further classified as follows:

- Each candidate must take at least 4 courses from a list of courses recommended by Doctoral Program Committee (DPC) for that candidate (These courses can be assigned during the time of admission)
- Must take at least 2 courses as indicated by Doctoral Dissertation Committee (DDC)/Advisor.
- No prior course work can be transferred into this program
- All course work must be taken at Towson University and approved by the doctoral program director.

### **2.2 Guidelines of Course Assignment**

The following guidelines are used allocating courses. Each candidate must have core background and essential prerequisites for the program. A candidate's undergraduate and graduate record will be evaluated to cover this background and appropriate courses must be assigned.

#### **Core Background**

- One year of database (2 courses)
- One year of software engineering (2 courses)
- One year of computer networks (2 courses)
- Minimum of one course in OS
- One year of IT infrastructure (2 courses).

#### **Essential Prerequisites for the Program**

- One year programming experience in modern languages
- One semester of data structures and algorithms (1 course)
- One semester of fundamentals of Web applications (1 course)

If a candidate does not have above essential prerequisites, during the admission process, additional courses as prerequisites will be assigned by the committee.

## **Course List**

Four or more courses beyond MS program will be assigned from the Core Background. The following list of courses will be used to assign these courses. COSC or equivalent AIT courses will be used to select the courses. The following list shows some course choices available for selection at this point. This list may change in the future.

### **Database:**

COSC578, COSC657, COSC757  
AIT 632, AIT 732, AIT735

### **Software Engineering:**

COSC612, COSC614  
AIT 624, AIT 626, AIT725

### **Computer Networks:**

COSC650, COSC732, COSC730, COSC734, COSC745  
AIT 620, AIT 622, AIT614, AIT 712

### **IT Infrastructure:**

AIT600, AIT628, AIT630

### **Operating Systems:**

COSC519 or equivalent

## **3. RAs and Fellowships**

There are limited RAs/Fellowships provided by the department, which are very competitive. A student can apply for these positions every semester based on the availability of slots. A student should contact the program director for more information. An individual faculty may also have funding to support doctoral students. For these assistantships, a student should directly contact the faculty who has funds. The selection process is based on that individual faculty.

A RA/Fellow student may be required to perform teaching, research or both depending upon the need of the department.

### **3.1 Selection Criteria**

The following information will be used to select applicants for RAs/Fellowships provided by the department:

- o Recommendations (by faculty, indicating research and teaching ability)
- o GPA
- o Applicable Skills
- o Interview.

### **3.2 Period**

Assistantships are awarded on a yearly basis. Assistantships are also evaluated each year based on student's performance and their accomplishments.

## **4. Registration of Dissertation**

In order to register for doctoral thesis, a student must follow the following guidelines:

- o a student can only register dissertation credits after passing the qualifying examination
- o a doctoral thesis committee is formed, and a chair person is selected
- o a doctoral committee form is signed and submitted to the program director
- o can only register up to 9 credits maximum before approval of the doctoral dissertation proposal
- o can only register a minimum of 3 credits and a maximum of 6 credits in a regular semester, and only 3 credits in the summer
- o doctoral dissertation proposal must be presented to the doctoral committee and approved by the committee before a student can register more than 9 credits of dissertation; the approved proposal must be submitted to the program director
- o student's advisor (Chair of the doctoral committee) must send an email to the program director to register his/her student indicating the number of credits to register, number of credits completed thus far, student's ID, student's email, and student's address.

## **5. GPA Requirements**

- During the course work at Towson University in their Doctoral program, they must Maintain an annual GPA of 3.5 to keep their doctoral status

- A candidate will lose their Doctoral status upon getting a grade in any course less than a 'B'.

## **6.0 Dissertation Details**

It is the responsibility of a student to select a dissertation committee and a research advisor, as soon as possible in the program. Based on your research interest, discuss your research objectives with a faculty who is interested in that area. Once you decide on a research advisor, he/she will guide you to select the dissertation committee members, and also help you in preparing for a research proposal to be approved by the doctoral dissertation committee.

### **6.1 Dissertation Committee Members**

Students who pass their qualifying exam must establish their thesis committee. The structure of the thesis committee is as follows:

Doctoral Dissertation Committee:

1. Research Advisor (Chair)
2. DPC appointed member
3. Selected by student and research advisor
4. Selected by student and research advisor

Committee members must be from Towson University CS or CIS graduate faculty. There can be two additional committee members who must have a Ph.D.

### **6.2 Roles and responsibilities of dissertation committee members**

Research advisor:

- Direct the thesis
- Form the committee
- Communicate with the committee members

Committee Responsibilities

- Approve the research proposal
- Review the dissertation
- Approve the dissertation
- Approve defense (oral)

Approval must be unanimous for each case as needed.

To approve the dissertation topic:

- must be state-of-the art and original research

Criteria to evaluate dissertation include:

- Publications in reputable journal/conferences (at least one reputed Journal article or 3 reputed peer reviewed conference papers; if this minimal requirement is not met, then a student must file for a petition with justification to the doctoral program committee and this committee in cooperation with the student's doctoral dissertation committee will respond to the request in writing with appropriate recommendations and actions)

### **6.3 Doctoral Defense**

#### **Defense announcement**

Two weeks before the defense date, an announcement with an abstract should be posted on a bulletin board, and also notified to the doctoral program director.

#### **Defense participants**

The defense is open to public. After the presentation, the final defense deliberations are restricted to doctoral dissertation committee only; however, the department chair and/or the doctoral program director can participate in the defense deliberations as a non-voting member.

#### **Signatures**

Follow the guidelines provided by the graduate school.

## **7. Qualifying Examination Guidelines**

1. The exam will cover the following *six* areas:
  - A. Operating Systems (Study guide- COSC439/COSC519)
  - B. Data Structures and Algorithms (Study guide-COSC336/COSC600)
  - C. Database Management Systems  
Study guide – COSC 578, COSC 657 or AIT 632, AIT 732 or equivalent to a year of graduate course work in Database Management Systems.
  - D. Data Communications and Networking  
Study guide – AIT 620, AIT 622 or COSC 732, COSC 650 or equivalent of a year of graduate course work in Data Communications and Networking.
  - E. Software Engineering  
Study guide – COSC 612, COSC 614 or AIT 624, AIT 626 or equivalent to a year of graduate course work in Software Engineering.
  - F. Project Management  
Study guide - AIT 630 or equivalent to a year of graduate course work IT Project Management.

2. Date of the exam and the nature of the exam.

The exam will be written and will be a full day exam. The exam starts at 9:00 a.m. and will finish at 4:30 p.m. The exam will be offered twice a year, once in January, and once in June. You can attempt all parts in the exam.

3. Evaluation Procedure

- Four out of six subject areas must be passed to pass the qualifying examination. Qualifying examination must be passed in two attempts; otherwise the committee will recommend the student for dismissal.
- Each subject has a Pass or Fail status
- A student must pass the qualifying exam within the first 4 years in the program. If a student does not pass the qualifying exam within the time period, they will be automatically dismissed from the program.

4. Faculty teaching the following courses will be asked to provide textbook information and reading material for students: COSC 336, 519, 578, 600, 612, 614, 650, 657, 732, AIT 620, 622, 624, 626, 628 and 630.

5. The exam date, the procedure, the exam topics and the reading list for each area will be published on the departmental and CAIT website at least three months before the exam.

6. The students will be notified of results one week after the exam.

7. If necessary, the doctoral committee will discuss the individual grade of a segment of the test with the responsible faculty member on behalf of the student.

9. The student must present his/her research proposal to the thesis committee and get the committee's approval before starting his/her research.

**10. Student Appeal Process:** Students can't review his/her examination directly. If a student wants to appeal, he/she must write a letter to the Doctoral Program Committee, indicating section of the exam, type of complaint, any special reason for appeal, and type of questions to be reviewed. A student can write only one letter for all sections to be appealed. Send this letter to the Doctoral Program Director within ten days of the exam results. The doctoral program committee will review the appeal and respond to the student within ten days with a letter of response. The doctoral program director, chair of the department, and the dean of the college will be notified with a copy of the letter that is sent to the student.