BS-MS & BS-MCS Programs Informational Seminar

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Fall 2022

Agenda

- Overview of 5-year programs
- Program eligibility
- Application & Review Process

The BS-MS & BS-MCS Programs combines two degrees-

- B.S. in Computer Science
- M.S. (with thesis) in CS

  OR

  M.C.S. (non-thesis) in CS

Why Stay One More Year?

- Deeper training in CS
- Enhance your career prospects
- For BS-MS students
  - ✓Gain/improve research skills
  - ✓Test out if graduate studies up to a PhD is what you want to do

Why Stay One More Year?

2020-2021 Starting Salaries

	Average Starting Salary	Average Signing Bonus
BS	$113,978	$31,211
Masters	$119,978	$33,808
Ph.D.	$138,536	$66,825

Source: ECS

BS-MS vs BS-MCS

- BS-MS degree is a research-based master's degree that can lead onto the PhD program.

- BS-MCS degree is a non-research program – straight coursework – for students interested in industry positions.

Program Requirements – B.S. Component

This part is the same for both the BS-MS and BS-MCS

Requirement	Hours
BS Credit Hours	120
Coursework Shared up from BS Degree to MS/MCS Degree	9 - 12
Total Credit Hours Required for BS Degree Conferral	**129-132**

Must maintain a 3.0 undergrad GPA

- Higher GPA needed for admission

Program Requirements – M.S. Component

Requirement	Hours
MS Credit Hours	32
Coursework Shared up from BS Degree to MS Degree	9 - 12
Additional Coursework Hours Required	16 - 19
Thesis Credit Hours (599)	4
Total Credit Hours Required for MS Degree Conferral	**32**

Must maintain a 3.0 undergrad & grad GPA

https://ws.engr.illinois.edu/sitemanager/getfile.asp?id=391

Feedback: Former BS-MS/BS-MCS Students

- The program is great if your main goal is to cut down the time needed to get a graduate degree.
- It may not be the best way to build your research if you want to obtain a Ph.D. in the future due to limited time.
- Work closely with the advisors to ensure you are on track.
- It is an intense program. You are completing courses and working on research all at the same time.
- Hard to explore all the opportunities of graduate school if you want to go on for a Ph.D.
- Start your research early! Writing a thesis is a new experience and can be difficult.
- Plan your coursework wisely so you don't end up with a full load your last semester when you are writing your thesis.

Program Requirements – M.C.S. component

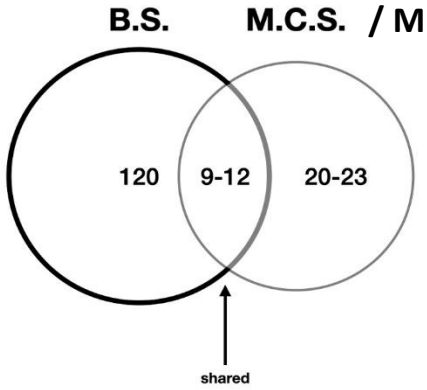
Requirement	Hours
MCS Credit Hours	32
Coursework Shared up from BS Degree to MCS Degree	9 - 12
Additional Coursework Hours Required	20-23
Total Credit Hours Required for MCS Degree Conferral	**32**

Must maintain a 3.0 undergrad and grad GPA

https://ws.engr.illinois.edu/sitemanager/getfile.asp?id=392

Breadth Requirement

- Eleven Breadth Areas
- MS – Must complete three different courses, each from a different core area
- MCS – Must complete four different courses, each from a different core area
- Grades in “Breadth” coursework must be a B- or higher



Shared Coursework

- Core "breadth" courses – Completed during the undergraduate year (generally senior year); shared between the BS and MS/MCS degree. Can be taken for 3 or 4 credit hours.
  - MS students: Complete 3 "breadth" courses.
  - MCS students: Complete 3 of the 4 "breadth" courses.
- Remaining Master's coursework: Completed as a graduate student once officially admitted to the Graduate College.

Moving to the Graduate Program

- Requirement is that BS requirements will be completed before transitioning
- Following (if of interest) must be completed as an undergrad:
  - CO-OP/Internships
  - Study Abroad – timing is important to have courses transferred formally
  - City Scholars
- No underloads approved in the final semester of undergraduate program unless maximum shareable/transferable coursework and all undergraduate requirements are complete.
- No Deferrals or gap years

Sample Degree Audits

MS Degree Program Rquirements
Student Planning Worksheet

Name:	COMMENTS:
Must maintain an overall 3.0 GPA	
Degree must be completed within 5 semesters.	
ESL Requirement Complete (for international students only)	
Must complete 32 Credit Hours	
28 hours of Coursework	
Breadth Requirement Total Credit Hours Completed	
500-level Requirement Total Credit Hours Completed	
Additional Coursework Total Credit Hours Completed	
Minus additional CS 591credit hours over 4 credits	
4 hours of Thesis Research (CS 599) required	
Total Credit Hours Completed	

Breadth Requirement: 9-12 HRS *(Grade must be a B- or higher)*

Must complete three different courses, each from a different area, from the following ten core areas with a grade of B- or higher.

Architecture, Compilers, Parallel Computing	CREDIT HRS	GRADE	COMMENTS
CS 426, 431, 433, 435, 462, 483, 484, 526, 533, 536, 598 Energy-Efficient Comp Architec, 598 Approx & Probabilistic Comp**			
Artificial Intelligence			
CS 440, 443, 445, 446, 447, 498 Audio Computing Lab, 543, 544, 546, 548, 598 Signal Processing**			
Bioinformatics and Computational Biology			
CS 466, 581			
Database and Information Systems			
CS 410, 411, 412, 510, 511, 512			
Formal Methods, Programming Languages, Software Engineering			
CS 421, 422, 427, 428, 476, 477, 498 Logic in Computer Science, 522, 524, 527, 528, 576*			
Interactive Computing			
CS 417, 418, 419, 445, 465, 467, 519, 565			
Security and Privacy			
CS 461, 463, 563			
Systems and Networking			
CS 414, 423, 424, 425, 434, 438, 439, 461, 463, 498 IOT, 498 IOT Software Engineering, 523, 525, 538, 541, 545, 563, 598 Advanced Multimedia Systems**			
Scientific Computing			
CS 450, 457, 482, 554, 555, 556, 558			
Theoretical Computer Science			
CS 473, 475, 571, 573, 574, 579, 583			
Total Credit Hours from Distribution Coursework - 9 to 12 credit hours			

* Courses temporarily approved to satisfy breadth requirements for **Fall 2020 only**.

ADVANCED COURSES: 12 HRS *(CS 500-590 or 598; Grade must be C or higher)*

Courses must not have been completed for the Breadth Requirement.
One 500-level course must be completed in one of the three chosen core areas above in the "Breadth Requirement".
The remaining two courses may be chosen from any 500-level CS course (500-590 or 598 only), or an approved non-CS 500-level course may satisfy 4 credit hours of this requirement.

500-level course to serve as second course from one of the three chosen core areas in Breadth Requirement	CREDIT HRS	GRADE	COMMENTS
Additional 2 500-level Courses (CS 500-590 or 598)			
Total Credit Hours from Advanced Courses - 12 credit hours			

ADDITIONAL COURSEWORK (Minimum of 24 coursework hours and 32 total credit hours; Letter grades must be C or higher.)

Additional Courses	CREDIT HRS	GRADE	COMMENTS
Note: up to 4 credit hours of CS 591 may count towards the additional coursework.			
Total Credit Hours from Additional Courses			

Deposit of MS Thesis	Yes		No	

8/20/2020

Professional MCS Degree Program Requirements
Student Planning Worksheet

Name:	COMMENTS:
Must maintain an overall 3.0 GPA	
Degree must be completed within 3 continuous semesters (online students must complete within 5 years)	
ESL Requirement Complete (for international students only)	
Must complete **32 Credit Hours**	
Breadth Requirement Total Credit Hours Completed	
500-level Requirement Total Credit Hours Completed	
Additional Coursework Total Credit Hours Completed	
Minus additional CS 591 credit hours over 4 credits	
Total Credit Hours Completed	

Breadth Requirement: 12-16 credit hours

Must complete four different courses, each from a different area, from the following ten core areas with a grade of B- or higher.

Architecture, Compilers, Parallel Computing	CREDIT HRS	GRADE	COMMENTS
CS 426, 431, 433, 435, 462, 483, 484, 526, 533, 536, 598 Energy-Efficient Comp Architec, 598 Approx & Probabilistic Comp**			
Artificial Intelligence			
CS 440, 443, 445, 446, 447, 498 Audio Computing Lab, 543, 544, 546, 548, 598 Signal Processing**			
Bioinformatics and Computational Biology			
CS 466, 581			
Database and Information Systems			
CS 410, 411, 412, 510, 511, 512			
Formal Methods, Programming Languages, Software Engineering			
CS 421, 422, 427, 428, 476, 477, 498 Logic in Computer Science, 522, 524, 527, 528, 576*			
Interactive Computing			
CS 417, 418, 419, 445, 465, 467, 519, 565			
Security and Privacy			
CS 461, 463, 563			
Systems and Networking			
CS 414, 423, 424, 425, 434, 438, 439, 461, 463, 498 IOT, 498 IOT Software Engineering, 523, 525, 538, 541, 545, 563, 598 Advanced Multimedia Systems**			
Scientific Computing			
CS 450, 457, 482, 554, 555, 556, 558			
Theoretical Computer Science			
CS 473, 475, 571, 573, 574, 579, 583			
Total Credit Hours from Distribution Coursework - 9 to 12 credit hours			

* Courses temporarily approved to satisfy breadth requirements for **Fall 2020 only**.

ADVANCED COURSES (12 HRS) (CS 500-590 or 598; Grade must be C or higher.)

One 500-level may be an approved non-CS 500-level course that relates to the MCS degree or a 4 credit hrs CS 597.

500-LEVEL Courses (500-590 or 598)	CREDIT HRS	GRADE	COMMENTS
Total Credit Hours from Advanced Courses - 12 credit hours			

ADDITIONAL COURSEWORK (4 to 8 hours; Letter grades must be C or higher.)

Additional Courses	CREDIT HRS	GRADE	COMMENTS
Note: up to 4 credit hours of CS 591 may count towards the additional coursework.			
Total Credit Hours from Additional Courses - 4 to 8 credit hours			

Off-Campus Transfer Students

- All undergrads must complete at least 60 credit hours on campus to meet residency requirement
- The 5-year programs will require an additional 9-12 residency credit hours beyond the undergrad 60
- Residency hours must be completed during undergrad

BS-MCS Program Eligibility

- Enrolled in the Illinois Computer Science program through the College of Engineering.
- Must have at least one year left of their undergraduate program at time of application.
- Must have a 3.0 or higher GPA to be eligible to apply. (Admission criteria can be higher.)
- There is no automatic admission to the program.

Application Process for BS-MCS Program

- Application deadline: March 15, 2023
- Complete the application form at the Graduate College application portal.
  - ✓ Resume
  - ✓ Statement of purpose
  - ✓ IF technical GPA < 3.5
    - ✓ One letter of reference from a professor for a course completed at the 400- (or 500-) level (preferred)
- Decisions released after Spring 2023 grades and GPA are posted.

Admission Review Process

BS-MCS Evaluation criteria:

- Strong academic performance
- Demonstration of strong communication skills through written application materials (and letters of recommendations).
- Informative "Statement of Purpose“ that explains applicant's background, leadership, and attraction to the program.

BS-MS Program Eligibility

- Enrolled in the Illinois Computer Science program through the College of Engineering.
- Must have at least the following Spring semester left in the undergrad program. (Application deadline is September 15)
- Must provide Advisor Agreement from CS faculty when applying.
- Maintain superior academic performance

  – 3.5 or higher GPA to be eligible to apply.

  (– Admission criteria can be higher.)

Application Process for BS-MS Program

- Application deadline: September 15, 2023
- Submit application form at the Graduate College application portal
  - ✓ **MS advisor agreement** (primary or de jure advisor must be CS faculty)
  - ✓ Resume
  - ✓ Statement of purpose
  - ✓ 3 letters of reference, including one from MS advisor
  - ✓ Decisions released approx. October 7, 2023

Admission Review Process

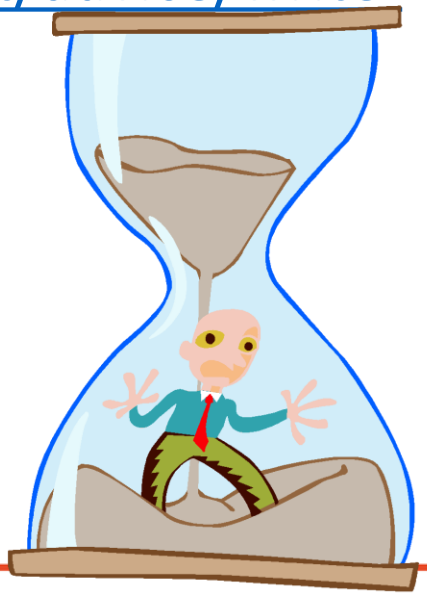
BS-MS Evaluation criteria:

- Strong academic performance
- MS Advisor Agreement
- Strong letters of recommendations that highlight applicant is already engaged in research, leadership, and communication skills as well as academic ability.

  ✓Letter from MS Advisor highly recommended
- Informative "Statement of Purpose“ covering applicant's background, research experiences & interests, career goals, leadership skills, and attraction to the program.
- Demonstration of strong communication skills through written application materials and letters of recommendations.

Tips for a successful application!

- Know your deadlines and plan to apply early!
- Ask for letters of recommendations early
  - https://homes.cs.washington.edu/~mernst/advice/request-recommendation.html
  - https://homes.cs.washington.edu/~mernst/advice/write-recommendation.html



Funding Opportunities

- BS-MS and BS-MCS students are eligible to hold Research and Teaching Assistantships (funding not guaranteed)

- International students must meet language proficiency requirements to hold TA appointments.
  - Option available to take EPI test (on-campus test). Available only during the Spring semester of Senior Year for students starting the graduate program the following Fall
  - TOEFL or IELTS

Application Deadline – if you missed it before

BS-MCS

March 15, 2023

BS-MS

September 15, 2023

For more information, visit

BS-MS Program -

https://cs.illinois.edu/academics/graduate/fifth-year-masters-programs/5-year-bs-ms-program

BS-MCS Program –

https://cs.illinois.edu/academics/graduate/fifth-year-masters-programs/5-year-bs-mcs-program