BS-MS Program
Informational Seminar
October 14, 2014

Steve Herzog, Coordinator of Undergrad Programs
Viveka Kudaligama, Coordinator of Grad Programs
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
- Learn to do research
- Test out if graduate studies up to a PhD is what you want to do
- Enhance your career prospects
Why Stay One More Year?

Potential salary differential ≈ $17K
What’s the Difference

- 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.
BS-MS Program Eligibility

- Must have at least one year left in the undergraduate program.
- Must be enrolled in the Illinois Computer Science program through the College of Engineering.
- Maintain superior academic performance – 3.5 or higher GPA.
BS-MCS Program Eligibility

- Must have at least one year left of their undergraduate program.
- Must be enrolled in the Illinois Computer Science program through the College of Engineering.
- Maintain an excellent academic performance – 3.0 or higher GPA.
BS-MCS Program Eligibility

GREAT NEWS!

Technical GPA $\geq 3.2$ & Overall GPA $\geq 3.0$

submit application for *automatic* admission
BS-MCS Program Eligibility

No Worries...

3.2 > Technical GPA ≥ 3.0

Overall GPA ≥ 3.0

Submit application through process administered by the Department’s Graduate Academic Office.
Application Process for both Programs

- Complete the application form.
- Submit three letters of recommendation.
- Complete a statement of purpose.
  - Include your name, UIN number, date of birth on each page.
BS-MCS Application Process

For BS-MCS Applicants Only!

If you have a 3.2 or above technical GPA
and
a 3.0 or above overall GPA
Submit the application to inform us that you want to complete the joint BS-MCS program!
Admission Review Process

The Admissions Committee evaluates applicants on the following criteria:

- Demonstration of strong communication skills through written application materials and letters of recommendations.
- Strong letters of recommendations that highlight applicant's research (for BS-MS only), leadership, and communication skills as well as academic ability.
- Informative "Statement of Purpose" that explains applicant's background, experiences, career goals, research interests (BS-MS only), research experiences and abilities (BS-MS only), leadership, and attraction to the program.
Application Deadline - March 15, 2015

Admissions limited to a Fall term entry

- Applicants must submit their completed application by 4:45 p.m. to the Academic Office, 1210 Siebel Center.
- No late applications accepted.
Program Requirements – B.S. Component

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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS Credit Hours</td>
<td>120</td>
</tr>
<tr>
<td>Shared Coursework between BS and MS Degree</td>
<td>9 - 12</td>
</tr>
<tr>
<td>Total Credit Hours Required for BS Degree Conferral</td>
<td>129+</td>
</tr>
</tbody>
</table>

Must maintain a 3.0 undergrad GPA
# Program Requirements – M.S. Component

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Credit Hours</td>
<td>32</td>
</tr>
<tr>
<td>Shared Coursework between BS and MS Degree</td>
<td>9 - 12</td>
</tr>
<tr>
<td>Additional Coursework Hours Required</td>
<td>16 - 19</td>
</tr>
<tr>
<td>Thesis Credit Hours (599)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Credit Hours Required for MS Degree Conferral</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

Must maintain a 3.0 undergrad GPA
## Program Requirements – M.C.S. Part

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCS Credit Hours</td>
<td>32</td>
</tr>
<tr>
<td>Shared Coursework between BS and MS Degree</td>
<td>9 - 12</td>
</tr>
<tr>
<td>Additional Coursework Hours Required</td>
<td>20-23</td>
</tr>
<tr>
<td><strong>Total Credit Hours Required for MCS Degree Conferral</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

**Must maintain a 3.0 undergrad GPA**
**Breadth Requirement**

- 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 “Core” coursework must be a B- or higher

<table>
<thead>
<tr>
<th>Core Area</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture, Compilers, Parallel Computing</td>
<td>CS 426, 431, 433, 435, 462, 483, 484, 526, 533, 536</td>
</tr>
<tr>
<td>Artificial Intelligence</td>
<td>CS 440, 443, 446, 543, 546, 548, 549</td>
</tr>
<tr>
<td>Database, Information Systems, Bioinformatics</td>
<td>CS 410, 411, 412, 466, 511, 512</td>
</tr>
<tr>
<td>Formal Methods, Programming Languages, Software Engineering</td>
<td>CS 421, 422, 427, 428, 476, 477, 522, 528, 524, 527, 576</td>
</tr>
<tr>
<td>Graphics/HCI</td>
<td>CS 417, 418, 419, 465, 467, 519, 565</td>
</tr>
<tr>
<td>Systems and Networking (includes real-time systems &amp; security)</td>
<td>CS 414, 423, 424, 425, 438, 439, 461, 463, 523, 525, 538, 541, 545, 563</td>
</tr>
<tr>
<td>Scientific Computing</td>
<td>CS 450, 457, 482, 554, 555, 556, 558</td>
</tr>
<tr>
<td>Theoretical Computer Science</td>
<td>CS 475, 571, 573, 574, 579, 583</td>
</tr>
</tbody>
</table>
Shared Coursework

- Core courses – Completed during the senior year; shared between the MS and MS degree.
  - **MS students**: Complete 3 “core” courses.
  - **MCS students**: Complete 3 of the 4 “core” courses.
- Remaining Master’s coursework: Completed as a graduate student once officially admitted to the Graduate College.
### Sample Degree Audits

#### Student Worksheet for the BS-MS Degree Program

<table>
<thead>
<tr>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS Credit Hours</td>
</tr>
<tr>
<td>Comments:</td>
</tr>
<tr>
<td>Shared Coursework between BS and MS Degree</td>
</tr>
<tr>
<td>Total Credit Hours Required for BS Degree Conferral</td>
</tr>
<tr>
<td>Must have 3.0 GPA</td>
</tr>
<tr>
<td>MS Credit Hours</td>
</tr>
<tr>
<td>Shared Coursework between BS and MS Degree</td>
</tr>
<tr>
<td>Additional Coursework Hours Required</td>
</tr>
<tr>
<td>thesis Credits (600)</td>
</tr>
<tr>
<td>Total Credit Hours Required for MS Degree Conferral</td>
</tr>
<tr>
<td>Must have a 3.0 GPA</td>
</tr>
</tbody>
</table>

**Breadth Requirement: 9-12 HRS - B. or Higher**

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

- **Architecture, Computers, Parallel Computing**
  - CS 426, 431, 432, 435, 464, 465, 500, 508
- **Artificial Intelligence**
  - CS 440, 441, 442, 456, 541, 542, 543
- **Database, Information Systems, Bioinformatics**
  - CS 410, 411, 466, 511, 512
- **Formal Methods, Programming Languages, Software Engineering**
  - CS 421, 422, 423, 424, 426, 427, 428, 429, 522, 523, 524
- **Graphics/AI**
  - CS 417, 418, 419, 455, 456, 457, 458
- **Systems and Networking (includes real-time systems & security)**
  - CS 414, 415, 416, 441, 464, 528, 529, 538
- **Scientific Computing**
  - CS 450, 457, 458, 554, 555, 556, 559
- **Theoretical Computer Science**
  - CS 479, 571, 573, 575, 577, 589

**Total Credit Hours from Distribution Coursework - 9 to 12 credit hours**

**ADVANCED COURSES: 12 HRS (CS 500-599 or 598; Grade must be C or higher)**

One advanced course must be the second course from one of the three chosen core areas above in the Breadth Requirement.

The other two courses may be chosen from any 500-level CS course (ISO-590 or 598).

**600-level course to serve as second course from one of the three chosen core areas in Breadth Requirement**

**Additional 2 599-level Courses (CS 550-559 or 558)**

**Total Credit Hours from Advanced Courses - 12 credit hours**

**ADDITIONAL COURSEWORK (4 to 7 hours; Letter grades must be C or higher)**

**Additional Course**

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Grade</th>
<th>Comments</th>
</tr>
</thead>
</table>

**Total Credit Hours from Additional Courses - 4 to 7 credit hours**

**Deposit of MS Thesis**

| Yes | No |

**Note: up to 4 credit hours of CS 591 may count towards the additional coursework.**

**Degree requirements must be completed within 5 years for both degrees (up to 4 yrs for BS and 1 yr for MS).**

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#### Student Worksheet for the BS-MCS Degree Program

<table>
<thead>
<tr>
<th>Name:</th>
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<tbody>
<tr>
<td>BS Credit Hours</td>
</tr>
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<td>Shared Coursework between BS and MCS Degree</td>
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<td>Total Credit Hours Required for BS Degree Conferral</td>
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<td>Must have 3.0 GPA</td>
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<tr>
<td>MCS Credit Hours</td>
</tr>
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</tr>
<tr>
<td>Additional Coursework Hours Required</td>
</tr>
<tr>
<td>Total Credit Hours Required for MCS Degree Conferral</td>
</tr>
<tr>
<td>Must have a 3.0 GPA</td>
</tr>
</tbody>
</table>

**Breadth Requirement: 12-16 HRS - B. or Higher**

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

- **Architecture, Computers, Parallel Computing**
  - CS 426, 429, 433, 435, 462, 483, 484, 528, 533, 536
- **Artificial Intelligence**
  - CS 440, 441, 466, 541, 542, 543
- **Database, Information Systems, Bioinformatics**
  - CS 410, 411, 466, 511, 512
- **Formal Methods, Programming Languages, Software Engineering**
  - CS 421, 422, 423, 424, 426, 427, 428, 429, 522, 523, 524
- **Graphics/AI**
  - CS 417, 418, 419, 455, 456, 457, 458, 519, 520
- **Systems and Networking (includes real-time systems & security)**
  - CS 414, 415, 416, 441, 464, 523, 529, 538
- **Scientific Computing**
  - CS 450, 457, 458, 554, 555, 556, 559
- **Theoretical Computer Science**
  - CS 479, 571, 573, 575, 577, 589

**Total Credit Hours from Distribution Coursework - 12 to 16 credit hours**

**ADVANCED COURSES (12 HRS) (CS 500-599 or 598; Grade must be C or higher.)**

500-Level Courses (500-599 or 598)

**Total Credit Hours from Advanced Courses - 12 credit hours**

**ADDITIONAL COURSEWORK (4 to 7 hours)**

**Credit Hours | Grade | Comments**

**Total Credit Hours from Additional Courses - 4 to 7 credit hours**

**Note: up to 4 credit hours of CS 594 may count towards the additional coursework.**

**Degree requirements must be completed within 5 years for both degrees (up to 4 yrs for BS & two semesters for MCS).**
Feedback: Current BS-MS 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.
For more information, visit

BS-MS Program -
http://cs.illinois.edu/current-students/graduate-students/bs-ms-5-year-program

BS-MCS Program –
http://cs.illinois.edu/current-students/graduate-students/bs-mcs-5-year-program

Email: admission@cs.illinois.edu
Call: 333-4197