BS/MS Overview

Objective:
- BS and MS degrees completed in 5 calendar years

Entry Requirements:
- GPA of 3.4 (overall and PFOS) at the end of the 2nd year, i.e. after 100 credits (55 RIT credits for transfer students)
- Faculty recommendations may be required, e.g. for students close to 3.4 (e.g. 3.35)
- Students may also enroll during the 3rd year of study

To apply:
- Talk with your advisor or department head
- Fill out change of program form
Students in the BS/MS program

- Need to maintain GPA > 3.0
- Have to do only 4 quarters of Co-op
- Are coded as undergraduates until they complete 196 credits
- Pay undergraduate tuition (or equivalent)
- Take additional graduate courses towards the MS degree requirements
- Are required to do thesis work
- Cannot stay beyond program time limits

BSMS Program Advantages

- Three courses are “double counted” towards both BS and MS degrees
- BSMS students pay undergraduate tuition for graduate courses
- BSMS students take graduate courses before they receive their BS degree
### MS Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>0306 794 Data and Computer Communications</td>
<td>4 d</td>
</tr>
<tr>
<td>0306 730 Introduction to VLSI Design (core)</td>
<td>4 d</td>
</tr>
<tr>
<td>0306 756 Multiple Processor Systems (core)</td>
<td>4</td>
</tr>
<tr>
<td>0306 740 Analytical Topics for CE (core)</td>
<td>4</td>
</tr>
<tr>
<td>0306 720 Design Automation (core)</td>
<td>4</td>
</tr>
<tr>
<td>Graduate Elective (also counts as Prof. Elective)</td>
<td>4 d</td>
</tr>
<tr>
<td>Graduate Elective</td>
<td>4</td>
</tr>
<tr>
<td>Graduate Concentration (consult thesis advisor)</td>
<td>4</td>
</tr>
<tr>
<td>Graduate Concentration (consult thesis advisor)</td>
<td>4</td>
</tr>
<tr>
<td>Thesis Proposal</td>
<td>1</td>
</tr>
<tr>
<td>Thesis</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

### BSMS Time Limits

- The BSMS students have a maximum of six contiguous academic years, since starting the BS program, to complete all degree requirements, including time spent at other institutions.
- Transfer credit is accounted as time spent towards the degree.
- If all BS and MS degree requirements have not been successfully completed within the 6 year time limit, then students will be matriculated into the regular BS program.
BSMS Time Limits

- This year 6th BSMS students must successfully defend by **June 15, 2007** and complete all BSMS requirement within summer quarter 2006.

- Students that do not complete all BS and MS requirements within the 6 year deadline will be matriculated into the regular BS program and may pursue the MS degree separately. This means that they will no longer be able to double count 3 courses towards the MS degree.

Challenges for BSMS students

- Adjust to heavier workload
- Begin thinking like a graduate student
  - There is more than just taking courses
- Start thesis work as soon as possible
  - Narrow general area of interest in 4th year
  - Start thesis research as soon as senior projects end
- Put effort towards thesis research
  - Thesis research has no deadlines
  - Thesis research has no single answer
You are about to finish your coursework
- Choose a general area of research
- Find your advisor
- Identify your thesis topic
- Form your Thesis Committee
- Write your Thesis Proposal
- Do the research work
- Write your thesis
- Write a paper based on your thesis
- Defend !!!

The Thesis Advisor
- Has expertise in the area
- Helps student define the thesis topic
- Approves and signs thesis proposal
- Supervises the research progress
- Determines that the work done satisfies the thesis requirements
- Reads and edits the thesis manuscript
- Approves and signs the thesis document
- Helps student write a research paper
The Thesis Topic

- MS level work involves applied research
- Some originality is required
- Thesis scope
  - Not too easy: Sufficient technical merit
  - Not too hard: Doable
- Thesis time
  - Literature search (1-2 months)
  - Research work (3-6 months)
  - Writing (1-2 months)

The Thesis Committee

- Reviews the technical merit of the thesis
- Approves and signs the thesis proposal
- Overlooks the work
- Reviews the results and the thesis document
- Approves and signs the thesis document
The Thesis Proposal

- Introduction with problem statement
- Background and Literature Search
- Proposed Work
  - what is the contribution of your thesis?
- Thesis outline
- Deliverables with timeline
  - Software, Design, Demos, etc
- Resources required
- References

The Thesis Research

1% *Inspiration* + 99% *Perspiration*
The Thesis Document

- Format Specifications
- Chapters
  - Introduction and Background
  - Theory and Methods
  - Results
  - Conclusions and Discussion
  - References
  - Appendices (code, etc)
- Take a look at past thesis documents

The Research Paper

- Publishing your technical work
  - Important to demonstrate technical merit
  - Promotes the department
  - Looks good on your resume
- Conference paper
  - 4-5 pages, easier to publish
- Journal paper
  - 20-30 pages, goes through rigorous review
- Seek help from your advisor
Discussion Items

- CE Research Areas
  - Digital Design and VLSI
  - Embedded Systems
  - Control Systems
  - Computer Architecture
  - Computer Networks
  - Image Processing and Computer Vision

- Graduate Seminar

- Graduate Electives/Concentration Courses