Worksheet for MS in chemistry (non-thesis), research students wanting to transition into Ph.D.
The Department offers a broadly based Master of Science, MS, degree that does not require a thesis. This particular worksheet is for those that are doing research and want to transition into the Ph.D. This course of study requires a total of 30 hours of graduate credit with a minimum of 24 hours in chemistry. See the departmental website for more description on the required courses. The core curriculum involves 12 hours consisting of two courses from each of two primary focus areas of advanced chemistry. The remaining hours can come from other graduate chemistry courses. 9 hours of 400-level courses can be counted towards the MS degree.

Core curriculum (12 hrs)
A core curriculum (12 hrs total) consisting of 2 courses from each of the 2 primary focus areas (6 hrs from each area)

1. Synthesis & Materials Chemistry
   - CHEM 513 Inorganic Chemistry (3)
   - CHEM 515 Organometallic Chemistry (3)
   - CHEM 517 Solid State Chemistry (3)
   - CHEM 519 Special Topics in Inorganic Chemistry (3)
   - CHEM 540 Advanced Organic Chemistry (3)
   - CHEM 541 Synthetic Organic Chemistry (3)
   - CHEM 544 Polymer Chemistry (3)
   - CHEM 545 Medicinal Chemistry (3)
   - CHEM 549 Organic Spectroscopy (3)
   - CHEM 551 Fundamentals/Design of Nanoarchitectures (3)

   - CHEM 512 Chemical Applications Of Group Theory (3)
   - CHEM 520 Instrumental Analysis (3)
   - CHEM 521 Environmental Chemistry (3)
   - CHEM 523 Chemical Sensors (3)
   - CHEM 524 Electroanalytical Chemistry (3)
   - CHEM 525 Bioanalytical Methods of Analysis (3)
   - CHEM 526 Analytical Separations (3)
   - CHEM 527 Analytical Spectroscopy (3)
   - CHEM 529 Special Topics in Analytical Chemistry (3)
   - CHEM 533 Advanced Physical Chemistry (3)
   - CHEM 534 Advanced Thermodynamics (3)
   - CHEM 535 Elements of Surface and Colloid Science (3)
   - CHEM 537 Computational Chemistry (3)
   - CHEM 539 Special Topics in Physical Chemistry (3)
   - CHEM 540 Advanced Organic Chemistry (3)
   - CHEM 551 Fundamentals/Design of Nanoarchitectures (3)

List 2 of the courses (course #) you have taken from in the synthesis/materials core:
   1) ________  2) ________ (6 hrs)

List 2 of the courses (course #) you have taken from in the analytical/physical methods core:
   1) ________  2) ________ (6 hrs)

Chemistry Electives: must be 6 hrs or more. List the other chemistry courses you have taken along with the total # of hrs. 9 hours of 400-level chemistry can be counted.
   1) ________  2) ________  3) ___________ (other classes, if needed)

# of chemistry elective hrs ________ (should be 6 or more)
**Introduction to Research.** You can take 2 introductory research courses (3 hrs each), if needed. Below is a listing of the possible courses. Each course can only be taken once.

- CHEM 518: Introduction to Inorganic Research (3 hrs)
- CHEM 528: Introduction to Analytical Research (3 hrs)
- CHEM 538: Introduction to Physical Research (3 hrs)
- CHEM 548: Introduction to Organic Research (3 hrs)

List the courses you have taken: 1) ______ 2) ______ # hrs ____ (can be 6 hrs or less)

**Topics/Reading Courses:** If you are both a full-time research student who wants to transition into the Ph.D. program you can take a research topics and/or reading course for a grand total of 6 hrs (only if needed). Neither of these can be taken more than once.

- CHEM 597 Research Topics (3 hrs)
- CHEM 598 Graduate Reading Course (3 hrs)

  Semester this was taken ___________ (if needed)  
  # of hrs from topics/readings courses ________ (0-6)

**Research Seminar.** You should also take CHEM 591 Research Seminar. This can be taken for 0 or 1 credit hrs. This is typically taken in the final semester.

  Semester that CHEM 591 was taken  ________  # hrs ________ (can be either 0 or 1)

**Special Study for Examinations.** You should sign up for CHEM 595 for 0 credit hours in your last semester (the semester you wish to graduate).

  Semester that CHEM 595 was taken  ________  # hrs ________ (must be 0)

**Total # of hrs __________ (should be 30 or more)**