Tom Bohman presents 4 topics for discussion and approval by MCS College Council:

- **Recitations and changes of Units for 21-369**
  - General question as to why changes are necessary to Computational and Applied Math Major. Answer is that the major needs to be brought up to date.
  - It is a popular major with a broad impression of what students should cover but Numerical Analysis is important and it needs a recitation. Matlab is getting in the way of math content. Adding a recitation will add units.
  - Agreement that making it stronger and modernizing it is important. Expectations of an increase in demand in the future because it is popular.
  - Recitation will be in a cluster, 1 TA, 20 students per recitation.
  - Comment that it is a problem in general when students do not know Matlab.
  - Question about 21-126 or 15-110. How to round out the program. Micro courses?
  - Question about what courses use Matlab? Perhaps a survey? Answer is that Stats uses R, Chemistry uses Mathematica. Perhaps ask the person who is teaching to put together a module. 21-126 was originally created for engineering clientele.
  - Comment that each major uses specialized software. Tom Bohman and Maggie Braun are to talk and bring back options to Rebecca Doerge.
  - Vote to expand units for 21369 from 9 to 12.
  - Approved unanimously.

- **New Course Proposal and Description: Numerical Methods II: Scientific Computing 21-469**
  - Discussion of 21-469 and 21-435 are together
  - The courses are meant to be core courses for the CAM track and are intended to be run alternating years.
  - 21-469 is intended as a follow on course – a 2nd course in Numerical Analysis. It develops more connections.
  - 21-435 is applications in harmonic analysis and doesn’t exist here now.
  - Comment that PDE for 2nd course in numerical analysis and Ghosh asked if 33232 students could take it. Schaeffer said yes.

- Recommendation that it should be tried and to let advisors know. Comment that CUA stated it was worth trying.
- Question that if it’s half proofs and half applications, it pertains to 2 different audiences, and why should it be split in this way. Answer is that you want students to do both and that it reinforces what you are applying.
- Question again that if it’s covering harmonic analysis and Fourier, how do you do both? Answer is that students can and should do both because applications inform the theory and there is a balance.
- Comment that just proofs get dry for students. Comment that it also reinforces the importance of foundational theory and that it’s not just programming, but applying the theory.
- Question about the number of students. Answer is max of 30.
- Vote to add new course 21-469.
- Approved unanimously.

- New Course Proposal and Description: Applied Harmonic Analysis 21-435
  - Discussion of course included in above section.
  - Vote to add new course 21-435.
  - Approved unanimously.

- Changes to the Undergraduate Catalog
  - Question is what statistics courses count as mathematics electives.
  - There is a sense that some of the courses do not meet the same standards as the other classes for the major.
  - 2 required courses have been taken out and added to the list of elective choices. Dropped are 21-320 Symbolic Programming Methods and 21-356 Principles of Real Analysis II.
  - Comment on doing math and applying with Matlab.
  - Modeling was last taught in 2001. It is being revamped and updated.
  - Comment that units increase from 112 to 124 in this concentration. Answer is that important courses were not there.
  - Question on if it is a reasonable increase. Answer is yes.
  - Question on if students take these courses now. Do they already take them? It’s important to be up-front on what the load is. Answer is that Symbolic Programming is gone. It was the only course that could be dropped.
  - Question on timing and adding a recitation. Answer is that recitation will start in 2018. It’s not offered next year – 21269. Symbolic programming is dropped.
  - Question about when these change in requirements start. Answer is Fall 2017.
  - Vote on the change in the undergraduate catalog.
  - Approved unanimously.

Linda Peteanu presents 2 topics for discussion and approval by MCS College Council:

- New Course Proposal & Syllabus: Metals in Biology: Function and Reactivity 09-521/721
  - Course is aimed at a mixed upper-level undergraduate and graduate population.
- Upgrade of Bioinorganic Chemistry adding information on biomedic properties of metal enzymes.
- Focus is not on how they work but how to use them in engineering processes.
- Spectroscopy + protein engineering + biophysics.
- Undergraduates will do a literature review. Graduates will create an original NIH style proposal.
- Question on if there will be teamwork between undergraduates and graduate students. Answer is that it’s an interesting idea. The issue is that there may not be a 1 to 1 ratio and the interest levels will be different.
- Comment that these are popular topics with lots of ways to collaborate. Agreement.
- Question as to how it fits into the program. Answer is that it’s an elective. Students interested in these topics within our outside of Chemistry will take it.
- General question about how other departments connect to others about course offerings. Answer is through department heads and advisors.
- Comment that courses should have key words. Comment that key words are searchable in the Schedule of Classes.
- Comment that key word search is only in titles and the user must be specific, i.e. – bio organic is not equal to bio inorganic.
- Question if other titles were considered? Comment that it’s not a great title. Answer is that the first title was worse. It’s a highly specialized subject and that is understood.
- Question on if it can be actively communicated instead of passively found. Comment that History sends out course offerings to campus. Comment that spreading is at the discretion of advisors, though. Discussion about posters. Comment that undergraduate advisors communicate these things.
- Question on overlap with BME. Question on if these approvals have to go to university level. Answer is that it may be the case later on, but in the first run it’s a matter of finding a balance.
- Question on when it will first be taught. Answer is Fall 2017
- Vote on new course.
- Approved unanimously.

- New Course Proposal & Syllabus: Introduction to Sustainable Energy Science 09-529/729
  - Currently teaches nanoparticle course with grad/undergrad mix. Good reception.
  - Energy Science – Scott Center doesn’t have a lot of basic science associated with processes and materials.
  - Chemistry is well positioned to teach this class.
  - If they come in with freshman chemistry > 09348
  - Question about what department is “27.” Answer is Materials Science.
  - Difference between the grad and undergrad: grads have to write a paper, undergrads do not.
  - Question about a low level prerequisite for a 500/700 level course. Is this targeted at the right level? Answer is prereq is materials + inorganic, not a deeper level of quantum. Electron Transport. Also: 300-level chemistry prerequisite.
  - Will adjust to the audience.
  - Question of if it will be an elective for undergraduates. Answer is yes.
- Question about student centered objectives. “What should students be able to do?” Suggestion that the objectives are not strong enough.
- Comment that Scott students to do a new minor in energy science. This might be a class for that.
- Question about with which college is Scott associated. Answer is CIT.
- There is talk of consolidating environmental minors, too.
- Question about who is keeping control of these? Answer is that things are still in discussion. There have been 4 students to get this minor in the last 4 years.
- Approved Unanimously.