IMPAC Annual Report
2005-2006

Science Cluster I: Mathematics
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Summary of Identified Issues

Two main areas for discussion and recommendations were explored at one or more of the six local Mathematics conferences held this year. With the on-going developments related to the CSU's LDTP programs and the prospect of no funding for IMPAC in the 2006-2007 California State budget, a discussion of the need for an organization to facilitate future inter-segmental math communication took place at the statewide meeting.

I. Course Related Recommendations. Consideration continued from 2004-5 on providing a separate "bridge" or transitional course experience for Mathematics majors prior to transfer. The CSU Lower Division Transfer Patterns for Mathematics were discussed during the year along with relevant information about local campuses and changing requirements for both liberal studies and teacher preparation. The developments of the new Transfer CSU course descriptions were previewed as they developed throughout the year with some resulting recommendations.

II. Organizational Recommendations.

Discussions continued at the local meetings leading to this year's recommendations that aim at improving communications at the Colleges and Universities and inter-segmental connections.
See below for specifics.

Identified Trends/Future Directions

Efforts continue at both CSU and UC Mathematics Departments to provide more specific direction for pre-transfer mathematics course work and improving pre-transfer major preparation. Because of overall procedural delays it is unlikely the coming year will see students using the LDTP and UC major transfer programs to prepare more carefully for transfer. Community colleges can expect to submit course information to the CSU for approval under the new TCSU numbering system sometime in fall, 2006. University Mathematics Departments should continue to improve communication by implementing web pages designed specifically with information for transferring majors.

Building on examples of UC San Diego and Sacramento State University, inter-segmental regional hubs at the UC's and CSU's and cooperation with other organizations to sponsor activities should develop further in the coming year. Also worth watching are the CSU's integrated teacher preparation programs and the changing nature of Liberal Studies and preparation of elementary and middle school teachers. A very recent noteworthy development is the appearance of "bridge" proof courses at the community college level, which will add to the mix of sophomore / junior level courses needing more subtle articulation comparable to current linear algebra and differential equations courses.

The ASSIST web site for exploring majors has much potential but could be improved by a reorganization of the main page for mathematics majors and consulting with math faculty on the design of its "exploring majors" pages. Should the IMPAC organization continue in some way without funding, the IMPAC Mathematics web site will continue to provide an added faculty resource to disseminate information relevant to inter-segmental activities.

Comments from Statewide Meetings and the General Field
There is continuing concern on providing opportunities for college students to develop more mathematical maturity. At least one community college has developed a "bridge" proof course and has established related articulation agreements with some universities. There are a variety of summer courses of this type available throughout the state, from Humboldt State to UC San Diego.

The local mathematics IMPAC conferences hosted by the Math Departments at UC San Diego, CSU Sacramento, CSU Dominguez Hills, CSU Monterey Bay, and San Francisco State were considered a very successful approach to improving communication. One special well received feature this year was the open sharing on how Linear Algebra is taught. Greater participation and attendance by the local community colleges should be a focus for organizing similar conferences in the future.

Recommendations for the Mathematics Discipline
The following recommendations were accepted by consensus among the participants at the mathematics sessions of the statewide IMPAC meetings May 6, 2006.

Organizational Recommendations
1.1 The ASSIST Web Page: It is recommended that the ASSIST web resource on majors be redesigned to give easier and more direct access to University Mathematics Department Web resources. It is further recommended that ASSIST consult with an inter-segmental panel of mathematics faculty on improvements to the design.

1.2 The IMPAC Math Web Page: It is recommended that the IMPAC Math Web Page give access to a reference grid with relevant contact information for the use of faculty (and students) with regard to programs, articulation agreements, and special events.

1.3 Models for Inter-segmental Community Building: It is recommended that individual universities organize regional Inter-segmental Mathematics Articulation conferences to facilitate the communication of relevant information about requirements and courses among proximate universities and "feeder" colleges and to foster the development of university hubs and greater inter-segmental cooperation.

1.4 Inter-segmental Math Councils:
When suitable, it is recommended that Regional Inter-segmental Councils should be developed to sponsor and support inter-segmental activities.

1.5 CMC^3 and CMC^3-South: Both CMC^3 and CMC^3-South are encouraged to become involved in developing future inter-segmental math connections.

1.6 Alternative locations: It is recommended that sessions for inter-segmental communication related to transfer be organized at least once at CMC^3 and CMC^3-South Conferences.

1.7 Math Days: It is recommended that Math Day(s) for CC students be organized with the assistance and sponsorship of such organizations as CMC^3 and CMC^3-South with participation from CSU and UC departments encouraged. Coordination of these events with other Undergraduate Mathematics conferences should be encouraged,

1.8 Transfer Web Page: It is recommended that each University Mathematics Department develop a major transfer web page linked prominently on the department homepage. This page should contain information comparable to that included on the IMPAC developed Transfer Web Page template. See Appendix A.

Math Course Related Recommendations

2.1 LDTP CSU Common Course Numbering.

It is recommended that the community college faculty should be consulted, through IMPAC if possible, in the creation, development, and revision of course descriptions of any common course numbering system.

2.2 Unified Inter-Segmental Course Numbering

It is recommended that a single unified inter-segmental course numbering system be developed for the CSU and CCC.

2.3 Articulation: It is recommended that university recommendations for transfer preparation (LDTP and UC transfer major preparation) be identified and described in catalog and web materials.

Topics for Further Discussion

Review of programs and courses for teachers at all levels is a subject for future discussion. Math Day Programs coordination with other events needs continued efforts to make these a more regular event. Bridge courses still present a difficult hurdle for transferring students to overcome prior to transfer and merit further discussion.

Recommendations Forwarded/ to be forwarded to ASSIST:

The ASSIST Web Page: It is recommended that the ASSIST web resource on majors be redesigned give easier and more direct access to University Mathematics Department Web resources. It is further recommended that ASSIST consult with an inter-segmental panel of mathematics faculty on improvements to the design.

Outreach presentation made by members of this group:

Organization	Date/ Place	Presenter	Number Present
CMC^3	12/2/05 CMC^3 Conference, Monterey	Martin Flashman	12