

Report for IMPAC Regional Meeting
November 13, 2004
Submitted by Martin Flashman
IMPAC Lead Faculty for Mathematics
Based on Notes by Fran Manion

A list of those attending is included at the end of this report. Participants came from colleges and universities in the Southern and Los Angeles and LA Metropolitan Regions. The meeting began by reviewing information from the 2003-2004 IMPAC Annual Report for the Mathematics discipline. This report and other information relevant to IMPAC (such as the agenda for this meeting) are available on the recently developed IMPAC Website - see <http://www.humboldt.edu/~mef2/IMPAC/MATHIMPAC.html>.

Discussions covered the following developments.

Lower Division Transfer Patterns (LDTP) Project at the CSU

The LDTP is now mandated by recent State legislative action. The Council of CSU Mathematics Department Chairs adopted an agreement in April 2004, that provides a transfer pattern for community college students planning to major in mathematics at the CSU. A student completing this pattern before transfer will be given a preference for admission to the CSU and will have satisfied most of the lower division GE and major requirements, allowing completion of work for a degree in mathematics to proceed without much difficulty within two years. The LDTP specifies that transfer math majors will have completed three semesters or four quarters of calculus plus all areas of general education except for Physical Science. In addition, individual campuses have locally determined requirements which will specify how to complete the Physical Science general education for that campus. It was noted that these patterns do not apply to the UC system. [Transfer major preparation at UC's depends on articulation agreements at each of the UC campuses and has not been consolidated statewide at this time.].

Course Information

Liberal Studies Major and the Teaching Credential

In the past, math courses for Liberal Studies programs have been a pathway to the elementary education credential waiver. However, these courses are no longer required as part of the preparation for the elementary education credential, though still part of the Liberal Studies major. As a result there is likely to be a diminishing number of students enrolling in these courses in the next few years as new pathways develop for teacher preparation.

Resources for Transfer Students

The response by ASSIST to the mathematics IMPAC recommendations of improved web linkage to major departments has been implemented for the UC campuses. A similar effort is now in process for the CSU campuses with completion projected by the end of the calendar year.

The participants suggested that the IMPAC Math Webpage include a "transfer assistance" page for college faculty, counselors, and potential mathematics majors. The page should include for each of the UC and CSU campuses links to and/or contact information for

- the person(s) to contact for information regarding transfer, in particular, transfer with a mathematics major,
- the university articulation officer and
- The mathematics department and university homepage.

It was noted that some university mathematics department homepages [such as that of UCLA] provide sample syllabi and exams. These may provide students and college faculty a preview of the level of rigor they can expect at the University.

Communication among the Mathematics Academic Community

Several suggestions from last year's recommendations for increasing communication between colleges were discussed.

- Intersegmental regional "Math Days" for community college math transfer students would provide an opportunity for students to become familiar with programs provided at various CSU/UC campuses. The agenda for these events could include such topics as transfer information, "star" lectures regarding current research and developments in mathematics, specific topics from upper division courses, and/or careers that use mathematics.
- As an alternative to developing regional "Math Days" it was suggested. University campuses would develop programs to involve prospective transfer students and college faculty in a University campus visit ("field trip") from many "feeder" colleges. The IMPAC math web site could serve as an information clearing house so the colleges could learn more about these programs [besides from direct communications from the Universities to the feeder colleges].
- CSU/UC Mathematics departments might invite community college math majors and faculty to attend "Career Days" for mathematics majors at the CSU/UC campuses. Fran Manion volunteered to work with Professor Flashman to contact UC and CSU Math Departments to investigate how to do this effectively and make relevant information available.
- It was recommended that the community college mathematics organizations, CMC³ and CMC³-S, should establish links on their homepages to the IMPAC Math Webpage. Reciprocally IMPAC Math Webpage already has links to CMC³ and CMC³-S.

CAN Courses

- Although new CAN Math descriptors were developed in Spring, 2002 by an Ad Hoc IMPAC related group, they have not been implemented in the CAN lists.
- CAN is currently developing a new system for proposing and revising CAN courses and descriptions. In this new system, the CAN courses may also include course objectives to provide greater clarity on the nature of the course description. [Note: It is not being proposed that learning outcomes for a course be included with the CAN description.] Information of this type is routinely included in the organization of a course at the community colleges, but not at the universities.
- Though the UC currently does not use the CAN system for creating articulation agreements, the participation of UC faculty in developing CAN descriptions will help clarify course design for the colleges to conform better to comparable university courses at both the CSU and UC.
- There are some funds available to work on revising and/or creating CAN descriptions this year. This task would be organized through Professor Flashman as IMPAC lead faculty for Mathematics in cooperation with the CSU Council of Math Department Chairs and in consultation with selected College faculty with expertise in teaching courses being considered.
- Discussion was centered on which courses might benefit from review, with some deference to what the CSU Department Chairs considered most useful to them in reviewing courses for articulation agreements.

o Statistics

There is no CAN Math Statistics course. There is a Statistics course:

STAT 2

Title: Introduction to Statistics

Description: Introductory course in probability and statistics; descriptive analysis and presentation of data; hypothesis testing; statistical inference; normal and chi-square distributions; applications.

Prerequisites: Algebra I, Geometry, and Intermediate Algebra (Algebra II).

3 semester units or 4 quarter units.

For purposes of articulation there seems to be concern on the part of some transfer institutions about the differences between statistics courses which rely heavily on the use of computer technology (accommodating work with large data sets) and those which use only calculators. This led to the question of whether there should be one or two CAN Math Statistics, reflecting the different levels of technology. This is the beginning of a discussion that will probably continue at a later meeting.

o Discrete Math

There is also no CAN Discrete Math course. Perhaps this can be cross-listed with a CAN CIS Discrete Math?

CSCI 26

Title: Discrete Mathematics

Description: Elements of discrete mathematics which have applications to computer science; methods of proof including mathematical induction. Topics include logic, sets, relations, graphs, trees, combinatorics and Boolean algebra.

Prerequisite: Pre-calculus.

o Bridge Course

The last IMPAC meeting discussed the possibility of a Bridge Course for transfer students. There has not been any decisive discussion about the contents of such a course. The 2003-2004 Annual Report outlined the discussion on the Bridge program. Summer courses are available: UCLA will offer a Linear Algebra/bridge course while UC Berkeley will offer a Proof/Bridge Course. There is also the possibility that community college students can “cross register” at nearby UC/CSU’s for these courses and pay community college fees.

IMPAC participants are encouraged to locate information about these and similar courses on the Web for discussion at the spring meeting. It may be possible to get an NSF grant to develop this type of course for a summer program. IMPAC members can send names of people who might be interested in developing such an NSF grant to Professor Flashman. In addition, it was suggested that community college faculty be encouraged to cross register in a proof course with a view to the impact it would have on lower division teaching.

· Questions from the CSU Mathematics Chairs

The CSU Chairs have questions on CAN Math 2 (Introduction to Mathematical Reasoning), CAN Math 4 (Mathematics for Elementary Teachers) and (from last spring) CAN Math 26 (Linear Algebra).

Recommendations

1. The proposed CAN MATH Linear Algebra should be submitted to CAN for approval.
2. A group of 20-30 people should meet in four subgroups on a designated day outside of the standard IMPAC meeting to develop CAN descriptions for CAN MATH 2, 4, Statistics and Discrete Math. We need to set a date and invite participation of individuals involved with these courses at the CCs, CSUs and UCs.

Finally, the IMPAC statewide meeting is scheduled for April 30, 2005, at the Radisson at LAX. At that meeting proposals and recommendations based on this meeting and the regional meeting in the Bay area will be reviewed and final recommendations will be adopted.

Registered Participants (as of 11-10):

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