Departmental Assessment Meeting: Report

Please fill out this report based on your department's conversation and return via e-mail to Megan Leonard or Sasha Pfau by March 31, 2017.

Summary of past decisions

Please summarize up to three departmental changes made since the last HLC visit (08-09) the impetus for those changes and any changes to information gathering about student development.

1. *Calculus Placement: We did a study of the correspondence between ACT scores used for placing entering students into the Calculus sequence. This study confirmed our method of placing students in MATH 130 with 26 or above, assessing transcripts for 24 or 25, and placing in MATH 120 with 23 or below.*
2. *MATH curricular changes: Influenced by our external review, Linear Algebra replaced Discrete Mathematics as a major requirement. Influenced by student interest, we have introduced Applied Mathematics coursework, such as the Mathematical Models course.*
3. *CSCI curricular changes: Full-time CSCI staff is three faculty. Only one remains who was present for the previous HLC visit. In part due to the change in personnel, and in part influenced by our past external review, we have rewritten our learning goals, changed our capstone process, reworked the introductory sequence with labs, dropped two upper-level courses and Robotics Explorations Studio, added four new courses (including a completely new Intelligent Robotics course), and renumbered our course levels according to a consistent scheme.*

Looking forward

Please summarize your department's focus for student development and your evaluation methods.

For 2017-18, in the Mathematics program we plan to focus on evaluating and improving MATH 120, Functions and Models. The course has a significant impact on retention and majors outside of Mathematics. We want to figure out what is working well and what needs improvement. To this end, we plan to assess how well the course is preparing students for MATH 130, ECON 200/210, and CHEM 110, and determine necessary changes based on that evaluation.

In the Computer Science program, we have rewritten the program learning goals. For 2017-18, we plan to craft a new evaluation plan for those learning goals. We are also contemplating some revisions to the major and minor in light of these updated learning goals.

Achieving departmental goals for students

Please explain how your departmental curriculum achieves your student learning goals, being sure to include the Capstone. Feel free to attach a curricular map or other supporting documents. Summarize the ways your department provides guidance in the effective use of research and information resources.

Here are our MATH learning goals:

1. *Employ the methodologies used in mathematics, including calculation, proof, discovery of new mathematics, and application.*
2. *Understand basic content and principles in each of the broad divisions within mathematics: discrete (algebra and combinatorics), continuous (calculus and analysis), and geometric (linear algebra and topology).*
3. *Master at least one field of mathematics to a depth beyond that typical of a single advanced undergraduate course in the topic.*
4. *Understand the motivation and aesthetics underlying mathematics, including the historical and cultural context in which it was developed.*
5. *Communicate mathematical ideas in written papers, oral presentations, and group discussions. Possess the ability to argue mathematical proof validity in both written and oral work.*

Here is the MATH curriculum map (497 is the capstone course):

MATH Course	1	2	3	4	5
115	X	X		X	X
120	X	X			
130	X	X		X	X
215	X	X		X	X
230	X	X		X	X
240	X	X		X	X
260	X	X		X	X
270	X	X		X	X
280	X	X		X	X
290	X	X		X	X
310	X	X		X	
320	X	X		X	X
340	X	X		X	X
350	X	X		X	X
365	X	X		X	X
420	X	X	X	X	X
450	X	X	X	X	X
497	X		X	X	X

Here are our CSCI learning goals, revised as of 4/4/2017:

1. *Create and demonstrate software that correctly solves realistic problems with open-ended scope.*
2. *Create, apply, and understand multiple levels of algorithmic and data abstraction to manage the complexity of hardware and software.*
3. *Employ mathematical ideas in a computing context.*
4. *Use empirical methods to analyze computational systems and models.*
5. *Employ written and oral communication in both technical and nontechnical settings.*
6. *Understand the social and ethical context of computing.*

Here is the CSCI Curriculum Map (410 is the capstone course):

CSCI Course	1	2	3	4	5	6
150	X	X		X		
151	X	X	X	X		
230	X	X	X			
235	X			X	X	
270	X		X	X		X
285	X		X	X	X	
320	X	X		X	X	
335	X	X	X	X	X	X
340	X	X		X	X	X
352	X	X		X	X	X
360	X	X	X			
365	X	X	X		X	
370	X		X	X	X	X
380		X	X		X	
382		X	X		X	
410					X	X

Your department's role in achieving the college's shared goals for students

Please explain how your departmental learning goals contribute to the Vision for Student Learning Goals. Feel free to attach a map or other supporting documents.

Mathematics Goals and the VSL

VSL Goal	1	2	3	4	5
I1	X		X	X	
I2	X	X	X	X	X
I3	X	X	X	X	X
I4	X	X	X	X	X
I5	X	X	X	X	X
I6	X	X	X	X	X
I7					X
I8	X	X	X	X	X
MC1				X	
MC2					
MC3	X		X	X	
C1				X	
C2					
WP1	X	X	X		
WP2					X
WP3	X	X	X	X	X
WP4					X

WP5					
WP6	X	X	X	X	

Computer Science Goals and the VSL

VSL Goal	1	2	3	4	5	6
I1	X	X	X	X	X	X
I2	X	X	X	X	X	X
I3	X	X	X	X	X	X
I4	X	X	X	X		X
I5			X	X	X	X
I6	X	X	X			X
I7					X	
I8	X	X	X	X		X
MC1					X	X
MC2						X
MC3	X				X	X
C1						
C2	X					X
WP1						
WP2	X				X	X
WP3	X	X	X	X	X	X
WP4					X	
WP5	X					X
WP6	X	X	X	X		X