

YEARLY PLANNING DISCUSSION TEMPLATE

General Questions

Program Name Computer Science Academic Year 2022-2023

1. Has your program mission or primary function changed in the last year?
 - **No, the mission and primary function has remained the same. From the course catalog, here is the computer science description:**

Are you interested in creating phone apps, video games, websites, artificial intelligence, or self-driving cars? Individuals with computer science skills truly are key drivers of global technological advancements. Studying computer science provides the skills needed to be able to use technology to provide innovative solutions to practical problems.

Allan Hancock College's computer science program teaches the introductory concepts of computer programming, computer architecture, and mathematics. Students learn the theory and methods of processing information in digital computers, the design of computer software and hardware, and the applications of computers.

Careers for graduates in computer science are plentiful, pay well, and are in high demand. A CNBC article published in 2020 identified the top 20 jobs in America using a system measuring salary, job satisfaction, and demand. The top three jobs on that list (front end engineer, java developer, and data scientist) all rely on computer science skills.

Hancock's computer science program prepares students to transfer to a four-year university for further study.

2. Were there any noteworthy changes to the program over the past year? (eg, new courses, degrees, certificates, articulation agreements)

Dave Degroot consistently reviews articulation and finds new opportunities. This year, I filled out a long survey for UC San Diego to hopefully earn updated articulation with that institution. There were also several "one-off" emails asking to review specific courses for articulation.

Computer science also experienced a win in terms of facilities. The M201 classroom, which is the main computer science classroom, experienced a major overhaul. See the Curriculum and Teaching Design Discussion document for details.

Learning Outcomes Assessment

- Please summarize key results from this year's assessment.
 - **Learning outcomes assessment hasn't been done for some time. This upcoming year, the one full time faculty and the two part time faculty will be prioritizing assessment.**

- Please summarize your reflections, analysis, and interpretation of the learning outcome assessment and data.
 - **Will be available in the next yearly planning update.**
 - Please summarize recommendations and/or accolades that were made within the program/department.
 - **Will be available in the next yearly planning update.**
 - Please review and attach any changes to planning documentation, including PLO rubrics, associations, and cycles planning.
 - **Will be available in the next yearly planning update.**
3. Is your two-year program map in place and were there any challenges maintaining the planned schedule?
- **Yes, the plans are in place:**
<https://www.hancockcollege.edu/pathways/sciences-technologies/computer-science.php>
 - **Yes, there is an issue. Physics has increased its unit counts even though Cal Poly has not. The map will need to be updated. Further, this puts the Computer Science AS-T degree over the unit maximum and, in general, this further pushes up units in an already high-unit major.**
4. Were there any staffing changes?
- **No. The computer science program consists of Michael Wagner (full time), Mark Kozel (part time), and Chris Pavone (full time math, but teaching a single computer science course).**
5. What were your program successes in your area of focus last year?
- **N/A**

CTE two-year review of labor market data and pre-requisite review

6. Does the program meet documented labor market demand?
- **N/A, not CTE**

7. How does the program address needs that are not met by similar programs?
 - **N/A, not CTE**

8. Does the employment, completion, and success data of students indicate program effectiveness and vitality? Please, explain.
 - **N/A, not CTE**

9. Has the program met the Title 5 requirements to review course prerequisites, and advisories within the prescribed cycle of every 2 year for CTE programs and every 5 years for all others?
 - **N/A, not CTE**

10. Have recommendations from the previous report been addressed?
 - **N/A, not CTE**

Use the tables below to fill in **NEW** resources and planning initiatives that do not apply directly to core topics. ***This section is only used if there are new planning initiatives and resources requested.***

Sample:

New Program Planning Initiative	
Title:	<i>(Short description of the planning initiative)</i> Telescope night
Planning years:	<i>(The academic years this will take to complete)</i> 2021-22 to 2024-25
Description:	
<p><i>(A more detailed version of initiative. Please include a description of the initiative, why it is needed, who will be responsible, and actions that need to happen, so it is completed.)</i></p> <p>The success levels of our courses have indicated that students need to have a hands-on experience with finding and pinpointing important celestial objects. Having a telescope night would allow students to learn how to align and find objects.</p>	
Resources:	
<p>Priority Level: Low Medium High</p> <p>Resource Type: Equipment Staff Faculty Supplies and Materials</p> <p>Quantity: 1</p> <p>Per Item Price: \$69.99 Price with taxes/shipping, etc.: \$76.00</p> <p>Description:</p> <p>Telescopes for students to use during the telescope nights. It is a 70mm telescopes for Adults Astronomy & Kids & Beginners, 300mm Portable Refractor Travel Telescope (15X-150X) with A Smartphone Adapter& A Wireless Remote</p> <p>https://www.amazon.com/ToyerBee-Telescope-Telescopes-Professional-Smartphone/dp/B095XQVTNM/ref=sr_1_4?crd=256FVSAQ5EU0P&keywords=telescope&qid=1667944660&sprefix=telescop%2Cap%2C160&sr=8-4&ufe=app_do%3Aamazn1.fos.18ed3cb5-28d5-4975-8bc7-93deae8f9840</p>	

New Program Planning Initiative	
Title:	
Planning years:	
Description:	
Resources:	
Priority Level: Low Medium High Resource Type: Equipment Staff Faculty Supplies and Materials Quantity: Per Item Price: Price with taxes/shipping, etc: Description:	
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Area of Focus Discussion Template

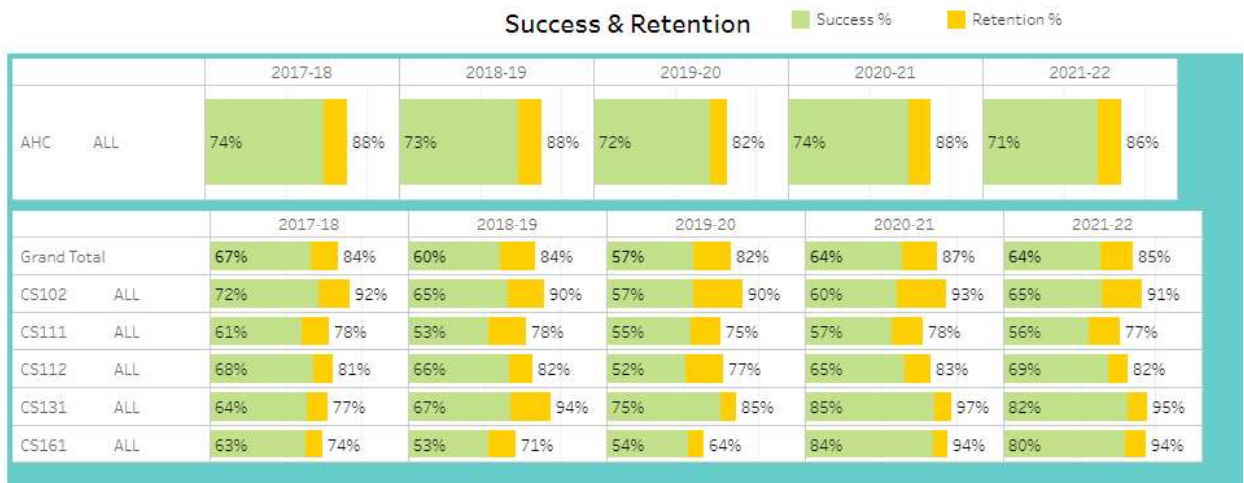
CURRICULUM AND TEACHING DESIGN

Curriculum and Teaching Design analyzes currency of modalities, articulation, and industry needs. It includes content review, currency and relevance, accessibility, and equitable practices. Sample activities include the following:

Possible topics:

- Review courses and programs through an equity lens to assess access and success.
- Review prerequisites, corequisites, and advisories, and limitations on enrollment, modality, articulation and transfer, and units and time to completion. Is there disproportionate impact within certain demographic groups?
- Assess teaching practices, equipment, supplies, and materials, and technology (like homework, syllabus, text, videos, classroom technology, etc.)
- Assess and integrate program learning outcomes (PLO).

1. What data were analyzed and what were the main conclusions?

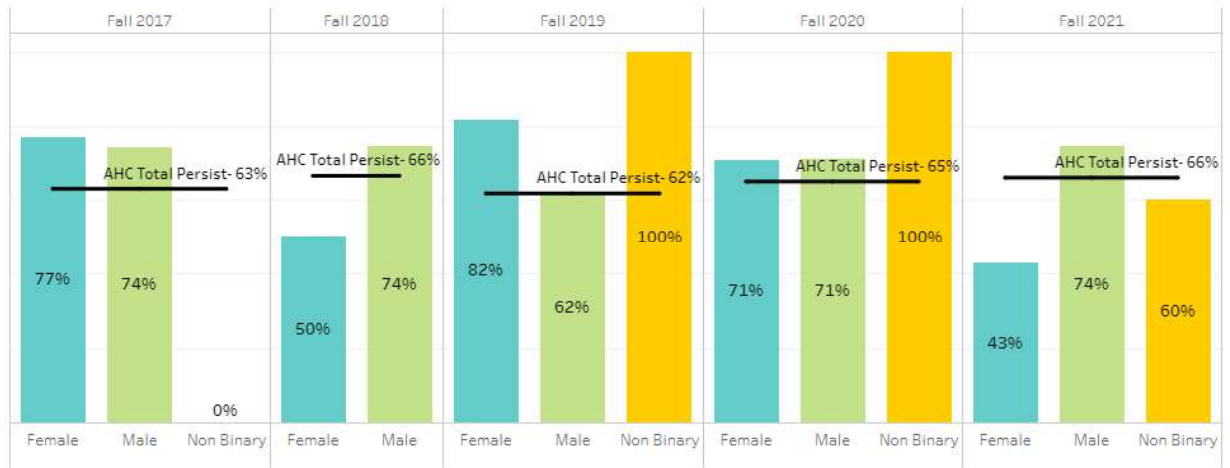


First time AHC students Persistence % fall to spring

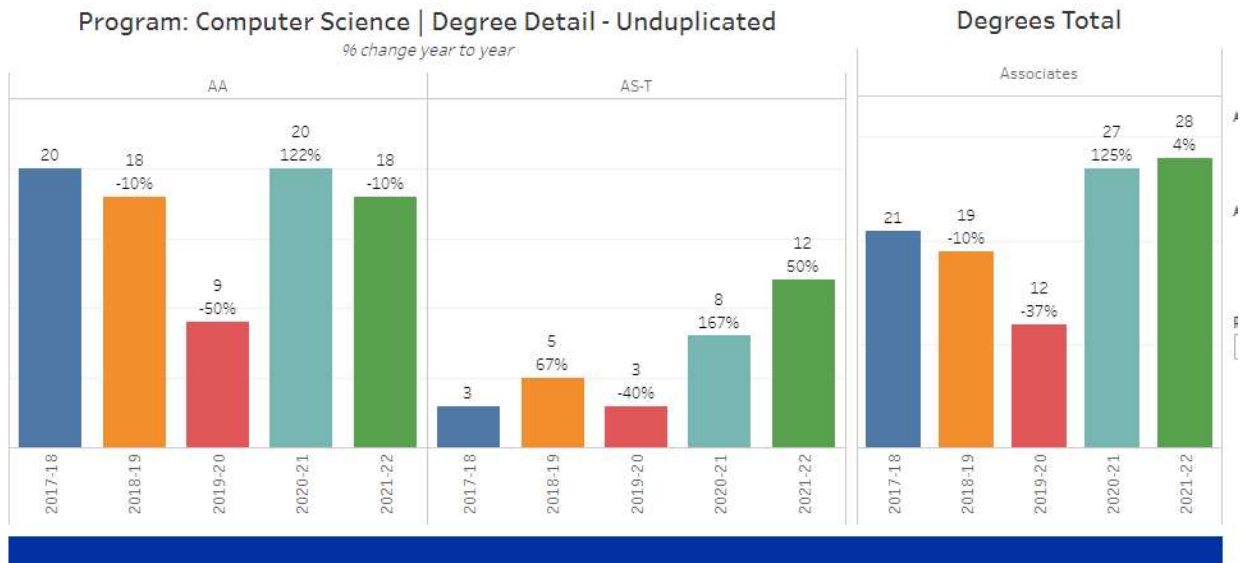


	Fall 2017				Fall 2018				Fall 2019				Fall 2020				Fall 2021			
	HC	#	%	Impact	HC	#	%	Impact	HC	#	%	Impact	HC	#	%	Impact	HC	#	%	Impact
Hispanic	49	37	76%		49	35	71%		45	34	76%		51	40	78%		55	40	73%	
White	22	16	73%		25	19	76%		33	22	67%		22	12	55%		22	14	64%	
Asian	1	0	0%		4	4	100%		2	2	100%		3	1	33%		2	2	100%	
Black	3	2	67%		2	0	0%		3	1	33%		4	4	100%		1	0	0%	
Filipino	4	4	100%		5	3	60%		4	1	25%		9	7	78%		2	1	50%	
Pac Isl	1	0	0%														3	2	67%	
Two or more	4	3	75%		2	1	50%		5	2	40%		6	3	50%		4	4	100%	
Unknown					1	1	100%		7	2	29%		5	5	100%		1	1	100%	
Grand Total	84	62	74%		88	63	72%		99	64	65%		100	72	72%		90	64	71%	

First time AHC students Persistence % fall to spring



	Fall 2017				Fall 2018				Fall 2019				Fall 2020				Fall 2021			
	HC	#	%	Impact	HC	#	%	Impact	HC	#	%	Impact	HC	#	%	Impact	HC	#	%	Impact
Female	13	10	77%		10	5	50%		11	9	82%		17	12	71%		7	3	43%	
Male	70	52	74%		78	58	74%		87	54	62%		79	56	71%		78	58	74%	
Non Binary	1	0	0%						1	1	100%		4	4	100%		5	3	60%	
Grand Total	84	62	74%		88	63	72%		99	64	65%		100	72	72%		90	64	71%	



Main conclusions

- In general, the success rate and retention rate for computer science courses are lower than the college's success rate and retention rate as a whole.
 - CS111 in particular seems to have the lowest retention/success rate.
 - The persistence rate by gender doesn't seem to show meaningful results. The rate for male and female students seems to vary without a consistent pattern. The results for non-binary students aren't useful because the sample size is too small.
 - The degrees awarded seem reasonable for a program of this size. When chatting with students, most of them are interested in transferring; they are less interested in getting the associates as a terminal degree.
2. Based on the data analysis and looking through a lens of equity, what do you perceive as *challenges* with student success or access in your area of focus?
 - An interesting challenge seems to be CS111. For STEM students, CS111 is often the first computer science course (for non-STEM, CS102 is the typical entry point). If the success and retention rate was increased in CS111, that may increase the headcount of the major in the subsequent classes. Students need to have a positive first experience with computer science.
 3. What are your plans for change or *innovation*?
 - The tests in CS111 seem to be a challenge for students. I would like to try and reduce the focus on theory (multiple choice, true/false) and increase the focus on hands on tasks (analyzing code or programming a small application).

- I would like to try re-imagining some of the assignments in the course. Some of the computer programs in the course are very complicated, and I would like to try making “lead up” questions that slowly build a complex application over time.
 - It’s important that the class maintains the same level of challenge (i.e. I don’t want to make the classes easier).
4. How will you *measure* the results of your plans to determine if they are successful?
 - **Success will be measured by reviewing the success and retention rate for the 2023-2024 school year.**
 5. What practices are used in your program's DE courses that support or demonstrate regular and substantive interaction?
 - **Lecture videos for CS102, CS111, CS102 are provided that follow the same slides and content as the in-person lectures.**
 - **Much more email interaction happens with the DE courses.**
 - **Access to Zoom is provided to interact with online students.**

Validation for Program Planning Process: If you have chosen to do the Validation this year, please explain your process and the findings.

1. Who have you identified to validate your findings? (Could include Guided Pathway Success Teams, Advisory Committee Members, related faculty, industry partners or higher education partners)
 - **Mark Kozel, part time computer science faculty (long time AHC faculty)**
2. Are there specific recommendations regarding the core topic responses from the validation team?
 - **Keeping students engaged, such as with more hands-on experiences, is a great idea. Creating class-length assignments, where students build up code over the course of a semester seems to keep them interested while they are learning each new topic**
 - **Students being able to access the instructor/tutoring via online services, in my experience, has resulted in more students asking for help**
 - **Video instructional content seems like the way students prefer their content. Supplementing in-person classes and enhancing online courses with video lessons is also a great idea**

- Working with feeder school (local high schools) to ‘get the word out’ about Hancock’s program, Revamping CS102 to support the College Now program might bring in more diverse student base

Based on the narratives for the prompts above, what are some program planning initiatives and resources needed for the upcoming years? Use the tables below to fill in **NEW** resources and planning initiatives. *This section is only used if there are new planning initiatives and resources requested.*

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New Program Planning Initiative	
Title:	M201 Room revamp
Planning years:	2023-2024

Description:

This plan is mostly complete. In 2022-2023, with the aid of IT, the main CS classroom, M201, received two new projects, a second monitor, an adjustable height desk, and other tools to support live instruction. The aging smartboard was also removed. One remaining item is new chairs for each workstation.

Resources:

Priority Level: Low Medium High

Resource Type: Equipment Staff Faculty Supplies and Materials

Quantity: 41

Per Item Price: \$120 **Price with taxes/shipping, etc:** 129.29

Description: NeuType Office Desk Chair Ergonomic Home Office Desk Chairs with Wheels Chairs for Desk with Lumbar Support High Back Mesh Computer Chair with Adjustable Padded Armrest Headrest Swivel Rolling,Black

Resources:

Priority Level: Low Medium High

Resource Type: Equipment Staff Faculty Supplies and Materials

Quantity:

Per Item Price: **Price with taxes/shipping, etc:**

Description:

Resources:

Priority Level: Low Medium High

Resource Type: Equipment Staff Faculty Supplies and Materials

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Program Review Signature Page:

Michael Wagner
Program Review Lead

6/2/2023
Date


Program Dean

Date


Vice President, Academic Affairs

Date









Computer Science 2022-23 Yearly Planning and Curriculum and Teaching Design Discussion

Final Audit Report

2023-07-21

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