ABET Review: Embedded

Spring 2024

Course Offerings & Enrollments

		Aut22	Win23	Spr23	Sum23	Aut23	Win24	Spr24
271	Digital Circuits and Systems	90	98	97	35	93	100	100
371	Design of Digital Circuits and Systems (EE/CSE)	67/19	75/17	65/24	12 - EE only	56/3	53/7	57/18
469	Computer Architecture I (EE/CSE)	78/10	63/7	83/6		80/9	47/2	75/6
470	Computer Architecture II (EE/CSE)			24/10				24/11
474	Introduction to Embedded Systems (EE/CSE)	50/21	52/13	50/18	36/13	50/20	52/15	50/22
475	Embedded Systems Capstone (EE 475/CSE 475/EE 542)	24/3/5	28/4/3	29/3/0		26/4/5	23/4/10	32/7/9

ABET Missing End of Course Reports

Missing Quarter	Course
Winter 2024 (Oskin)	469

End of Course Reports – issues found

271 – Aut22, Win23, Spr23, Su23, Aut23: no issues

371 – Win23, Spr23, Aut23, Win24: Move to a 4xx number, open up to grad students? Some hardware issues with LabsLand FPGAs. Should get a whiteboard (rolling?) for 365. Some students struggling on 271 topics.

469 – Aut22, Spr23, Aut23: Recommend 371 before 469. Lots of cheating – cheating-checkers, more lab variety, restrict github?
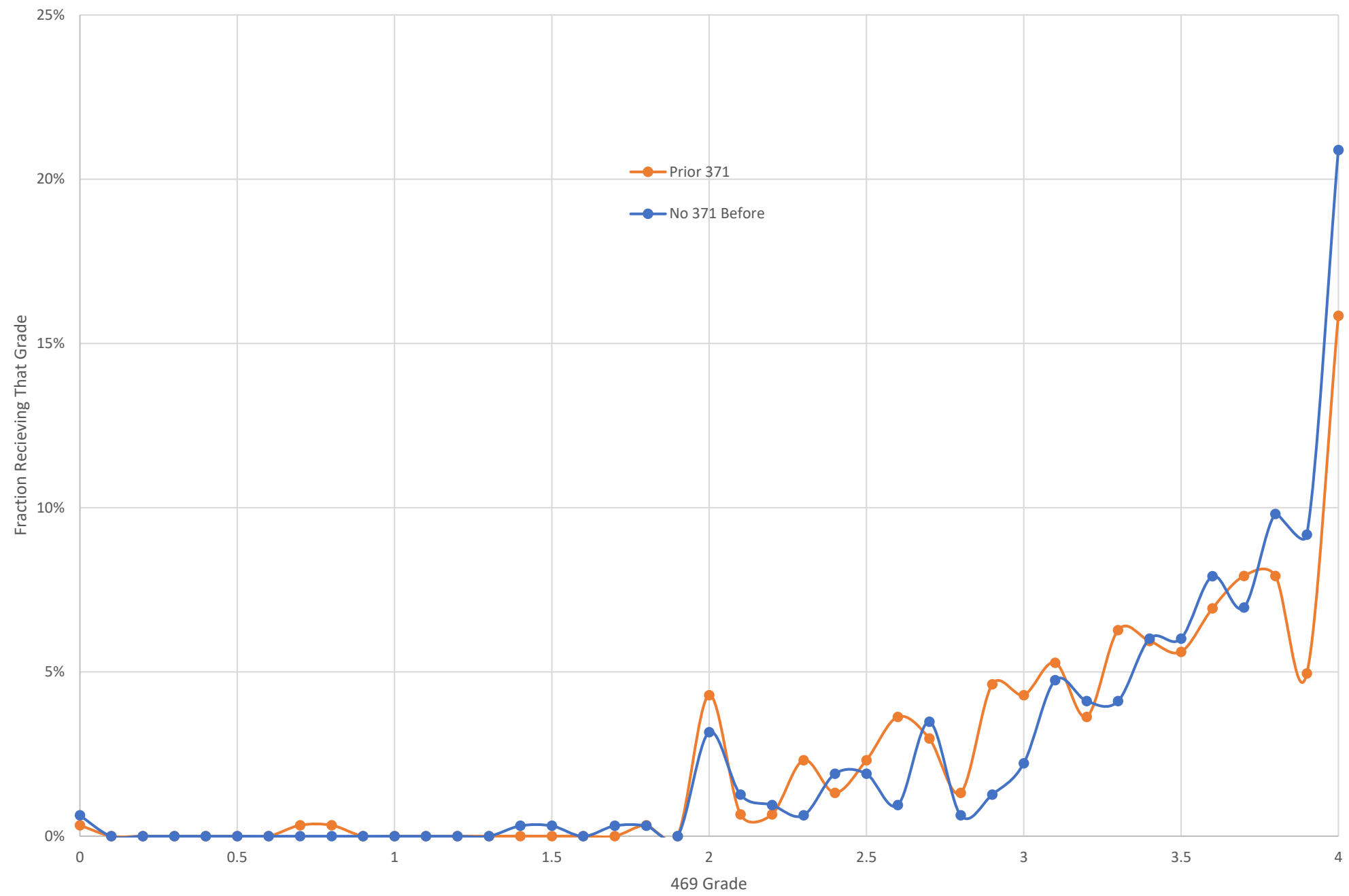
470 – No issues.

474 – Aut22, Win23, Spr23, Aut23: Should have assigned lab times. Students getting worse post-COVID. Can harness Chat-GPT as debugging/part of IDE. Would be good to have intro C course before 474. Desire to move to one consistent platform for all 474 offerings. Size of normal class, instead of smaller summer offering, requires significantly different strategies. IAR Workbench licensing is an issue.
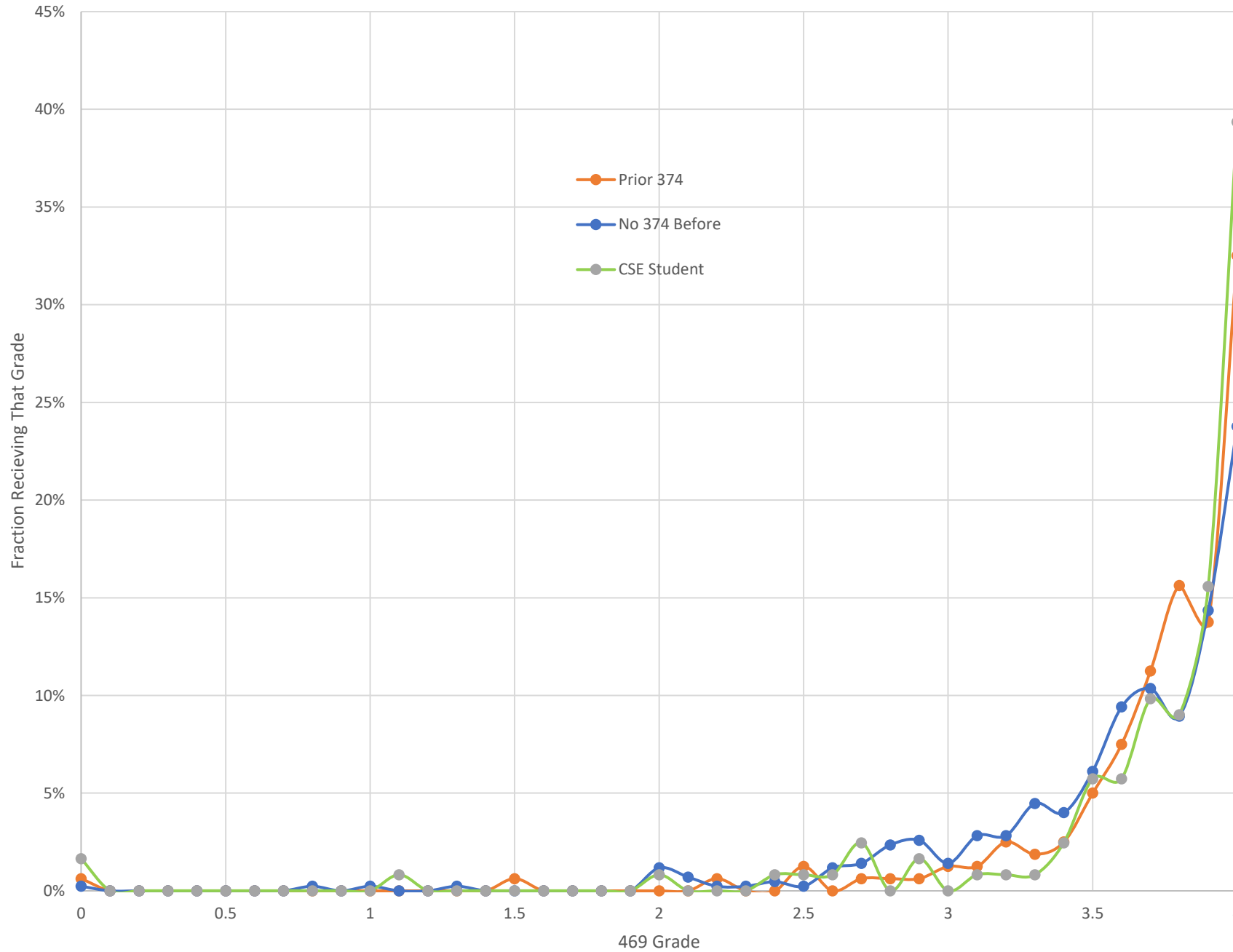
475 – Aut22, Win23, Spr23, Aut23, Win24: Some partnering with industry, should continue/expand. Some students struggle with embedded basics (474).

Mostly nothing big/consistent

371 impact on 469 Grade

374 impact on 474 Grade

No 374 Average	3.57
Prior 374 Average	3.70
CSE Average	3.66

Legend:
- Prior 374
- No 374 Before
- CSE Student

Y-axis: Fraction Recieving That Grade

X-axis: 469 Grade

ABET outcomes

Novice/Developing/Competent/Exemplary

Course	Quarter	ABET Outcome (Nov./Devel./Comp./Exemp.)							Notes
		1	**2**	**3**	**4**	**5**	**6**	**7**	
271	Aut'23		0/0/3/9						
469	Spr'23	0/1/3/8	0/0/2/10				0/0/2/10		
	Aut'23	1/2/6/3	1/0/3/8				1/3/2/6		
470	Winter Qtrs								No ABET assigned
474	Win'23	0/0/3/6	0/0/3/6				0/0/2/7		
	Spr'23	1/2/1/5	2/1/1/5				1/1/2/5		
	Aut'23	0/0/4/5	0/0/3/6				0/0/2/7		
	Win'24	0/2/6/7	0/4/4/7				0/2/6/7		
475	Win'23				0/0/0/6	0/0/0/6		0/0/0/6	One team of 6 assessed as whole, it appears.
	Spr'23								Work submitted, but don't see Outcome scores / One team of 6 assessed as whole, it appears.
	Aut'23				0/1/5/0	00/3/3		0/0/6/0	
	Win'24			0/0/0/9		0/0/0/9		0/0/0/9	3 teams of 3 for all assessments

ABET outcomes notes

- In the event of an ABET student outcome showing unsatisfactory (N+D)/(N+D+C+E) <75%, what actions and improvements are suggested?
  - Most well above limit.
  - 469 Autumn 2023, 1 more than allowed. Not an issue previously.
  - 474 Spring 2023, 1 more than allowed. Not a persistent issue.

Course Evals

Course	Qtr.	Instructor	Particiapted	Adj. Combined	CEI	Hours/Cr	NOTES
271	Spr23	Hameed	83/95	4.9	5.2	2.1	
271	Sum23	Hameed	25/32	4.5	5.4	2.7	
271	Aut23	Hussein	8/88	4.1	5.7	2.3	
271	Win24	Hamilton	51/98	3.8	4.9	2.1	
371	Spr23	Hsia	20/89	4.9	5.6	3.2	
371	Sum23	Hameed	5/13	4.7	4.9	1.7	
371	Aut23	Hameed	14/57	4.6	5.8	2.3	
371	Win24	Hussein					UNABLE TO DOWNLOAD
469	Spr23	Hussein	6/87	4.9	5.2	3.2	
469	Aut23	Hauck	83/86	4.9	5.8	3	
469	Win24	Oskin	43/48	1.8	5.9	2.4	
470	Spr23	Oskin	3/32	5.0	6.8	No Score	
474	Spr23	Iyer	16/68	4.6	4.8	2.5	
474	Sum23	Makhsous	41/48	4.1	5.3	3.2	
474	Aut23	Hussein	9/70	2.9	4.4	2.6	
474	Win24	Makhsous	59/65	3.4	5.1	3.2	
475	Spr23	Hussein					UNABLE TO DOWNLOAD
475	Aut23	Patel	4/35	4.6	6.5	2.9	
475	Win24	Hussein					UNABLE TO DOWNLOAD

Final Notes

- How is enrollment for the courses incentivized, if at all?
  - I don't understand the question…
- Are the course loads consistent with the number of credit hours offered for the courses? If so, which courses, and are there any plans to address the discrepancy?
  - For courses where the loads are consistent, we will begin flogging until students reply otherwise…
  - … No obviously inconsistent classes.
- Which courses are "lab heavy" and which are not?
  - All but 470, and 470 does have a significant project.
- For courses with labs, what types of labs are used?
  - ECEB-361/365: 271, 371: FPGA boards.
    - 469: Simulation, sometimes FPGA boards.
  - ECEB-345: 474: Embedded systems boards.
  - CSE 003E: 475: Embedded systems boards.
- For courses with labs, do TAs provide much assistance to the students? Do they stand back and let students work on their own?
  - No idea how to collect this data. Varies.

*** End of Talk Marker ***

Process

- End of Course reports can be found at the following link:
  - https://vannevar.ece.uw.edu/cgi-bin/operations/advising/course_db/eoq_main.pl
- You can see which End of Course reports are missing at the following link:
  - https://vannevar.ece.uw.edu/cgi-bin/operations/advising/course_db/eoq_reports_open.pl?