Software Engineering Program

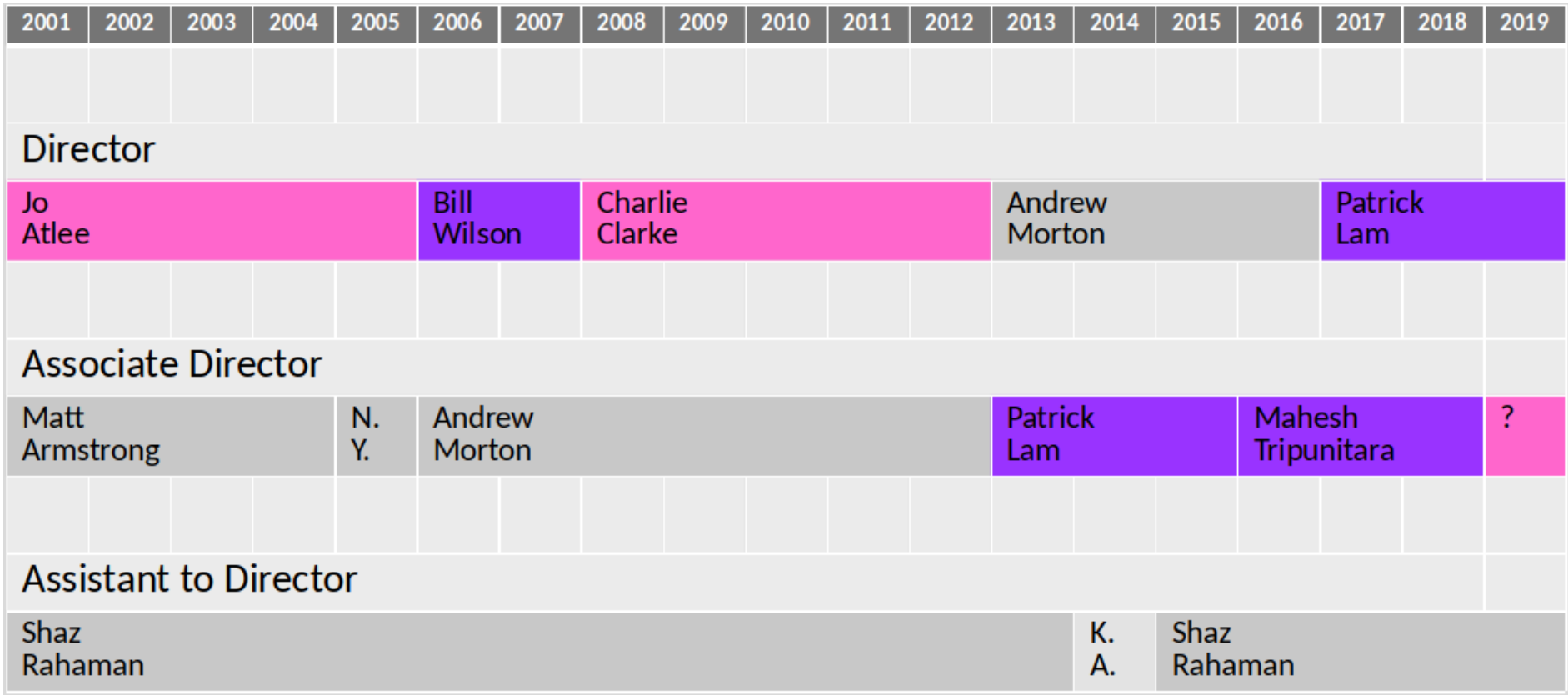
Presentation to the Board

Patrick Lam

July 10, 2017

Faculty of Mathematics
Faculty of Engineering

Program Administration



New Student Advising Model

- Assistant to the Director
  $\rightarrow$ added role of Undergraduate Advisor/Coordinator
  (Liz Skibicki filling in for Shaz Rahaman)

- most admin work redistributed to ECE & CS
  (notably finance).
- added front-line student advising to the role.
  $\Rightarrow$ has worked well for us.

Part I

Student Counts

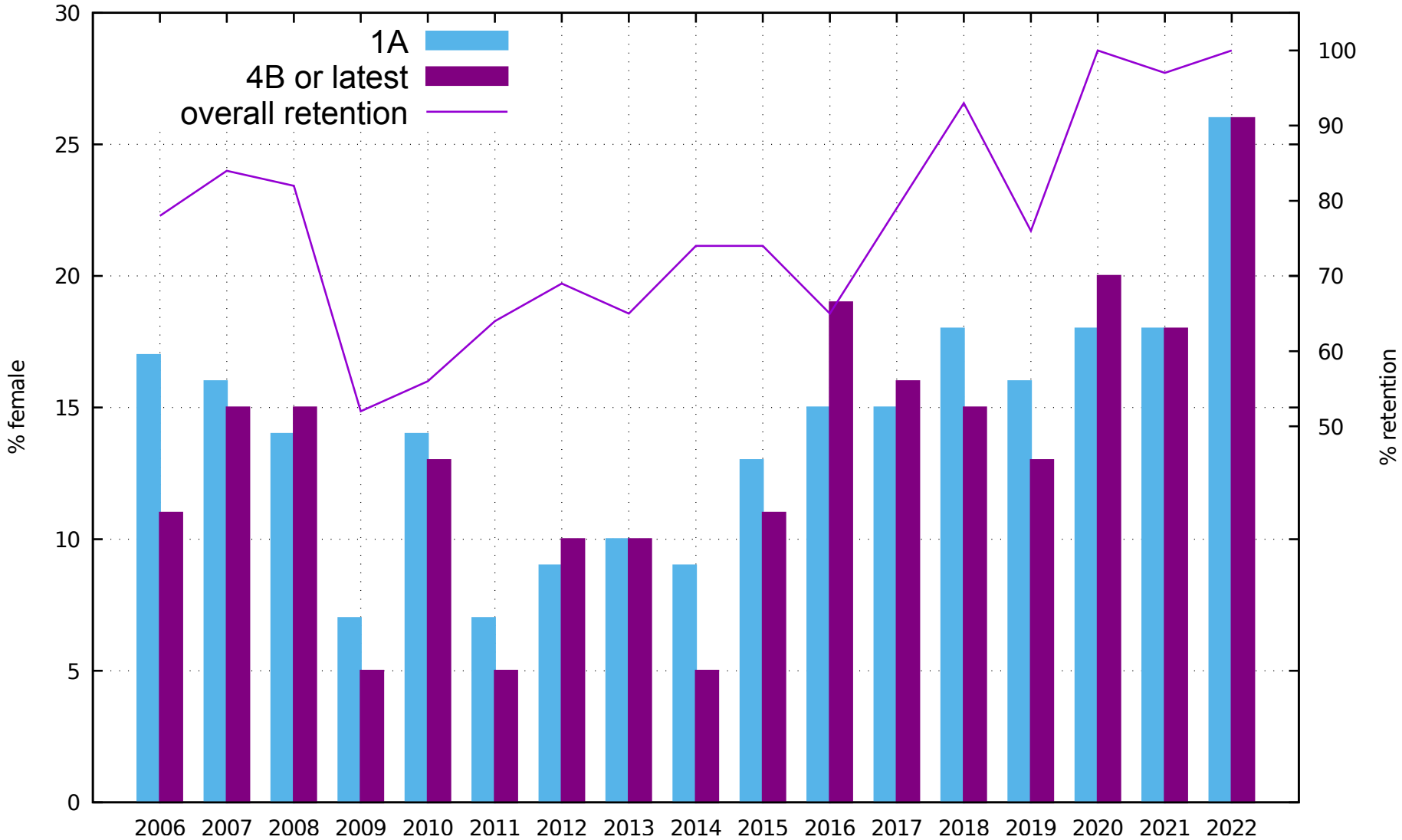
Admissions Data

	2017	f/? %	2016	f %	2015	f %	2014	f %
Applications	1475	16/3	1340	17	1112	14	640	
Offers	190	26/3	195	21	185	20	202	
Accepts	135	26/3	130	18	123	20	134	19
OSS average	95.9		96.5		96.0		94.1	
OSS 10^{th} decile	93.2		94.3		92.5		90.4	

notes:

- admissions is gender-blind;
  data suggest that females who do apply have more competitive applications.
- in 2017, applicants were no longer required to disclose gender;
  the ? denotes unknown.

Gender Counts



Failed Term Counts

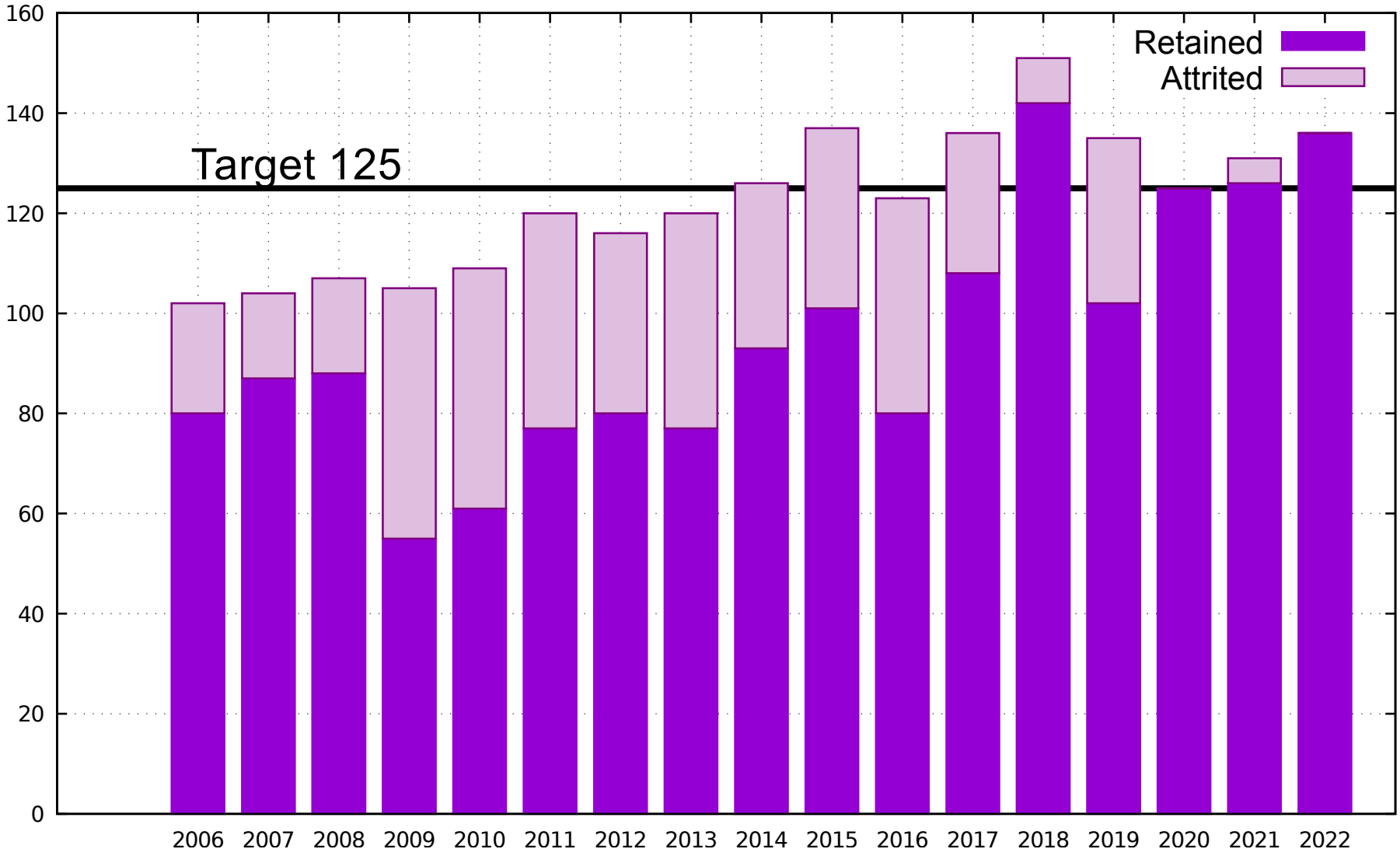
Failed term: term average $<$ 59.5%.

	initial #	1A + 1B	% female	2A + 2B
2021	130	9	22%	–
2020	125	10	30%	3*
2019	135	18	22%	12
2018	151	18	33%	7

*: class of 2020 currently in 2B.

Upper year failed terms % by females = 15%.

Cohort Sizes

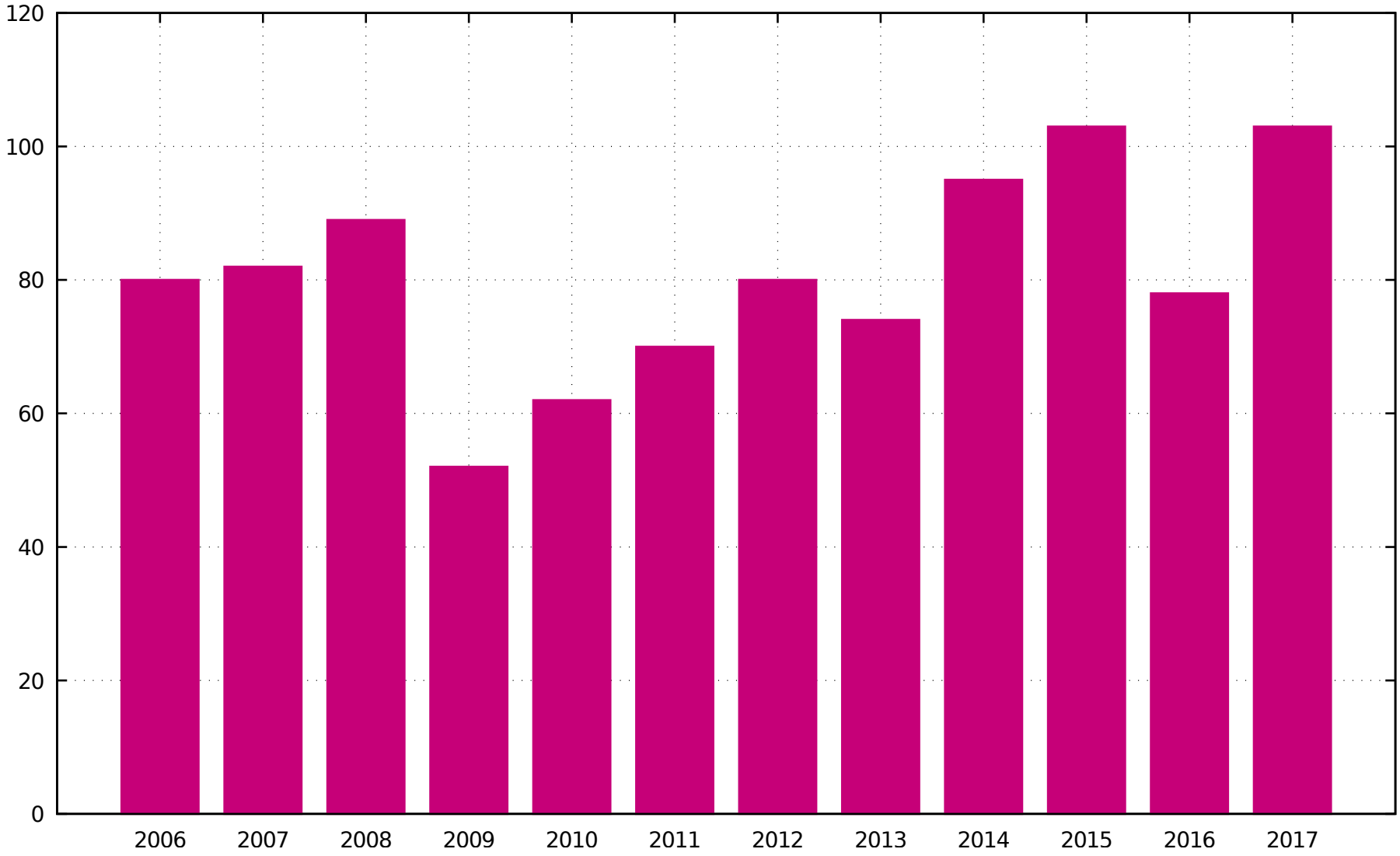


Graduation Rates

Tracking each of the students that initially enrolled in the BSE:

class of	# initial	% BSE	% BSE or BCS	% B.any
2014	115	65	77	82
2015	131	67	75	82
2016	122	63	71	75

BSE Degrees Granted (total 2006–2017 = 968)



Co-op Employment

Final co-op employment rates:

	all	1st	non-1st
W16	100	–	–
S16	99.6	99.1	100
F16	100	–	–
W17	100	–	–
S17	98.8	97.7	100
F17	*81.9*	–	–

W17 rate not in my records, but at least 95.8%.
F17 continuous round ongoing.
Engineering-wide employment rate: $\approx$ 97.2%.

Part II

Curriculum Committee Updates

Recent Changes

Housekeeping changes only:

- add new Advanced Technical Electives;
- add some BIOL science electives.

Ongoing CC discussions

- lots of outcomes discussions;
  now trying out streamlined process.
- revising work report guidelines.

SE Curriculum Retreat

Held SE Retreat with faculty & student reps in April 2017.

`https://patricklam.ca/se-board-2017/retreat`

About 1/2 bigger-picture issues and 1/2 discussing specific courses.

Have directions for the curriculum committee for the next few years!

Capstone Design Project

Want students to build something they're proud of.

Focus on results—students can build software prototypes that work.

Recent top New Project-category projects:

- Dynalist.io (2017).
  10,000 users, $3k monthly recurring revenue (now $5k).
- Tailor (2016).
  Developed a linter for Apple's Swift language.
  Blogs by programming thought leaders; active user base.
- UW Flow (2014).
  4700 users in 2014. Now over 25,000 users.
- WatPark (2012).
  Now the parking lot full/empty widget in UW Portal.

Capstone Project Instructional Approach

Collected library of past projects:

- videos;
- posters;
- stories.

Videos of talks are publicly available,
(also adopted by ECE.)

Projects' Evolution

Over the last five years we have seen the best, median, and worst projects all shift upwards in terms of quality. This is in part for evaluating based on real world results, and in part from setting the bar by last year's example.

While we haven't created new hoops for the students to jump through, we have directed their gaze up to the stars (results) and held their feet to the flames (historical examples).

– Prof. Derek Rayside

Part III

Surveys

10 years out survey

Sent a survey to SE2006 and SE2007 grads (email through the Alumni Office).
So far, only 3 responses. Hoping for more.

2017 Exit Survey: Expectations & Would Recommend

The on-campus portion of my engineering undergraduate program has met my expectations:

D = 1, d = 7, n = 3, a = 52, A = 30

The co-op portion of my engineering undergraduate program has met my expectations:

D = 1, d = 0, n = 2, a = 14, A = 76

I would recommend my program to other prospective students:

D = 2, d = 3, n = 3, a = 23, A = 62

2017 Exit Survey: Strengths & Weaknesses

Program strengths:

coop, cohort/community, core CS, best of CS + CE, amazing support

Program weaknesses:

stress/workload, lack of choice, not social, PD, work reports

I would best describe the communication and services of the SE advisors and administration as:

excellent = 60, good = 29, average = 4

Workload: 60h/week on average

2017 Exit Survey: Next Steps

In the year after graduation my next career step will be:

Entrepreneurial initiative	1
Full-time, non SE	1
Full-time, SE	82
Other	4
Grad school	2

Do you plan to work on getting a professional engineering license in the next 5 years?

- Yes: 28
- No: 57