



UNIVERSITY OF ZAGREB

Faculty of Electrical
Engineering and
Computing

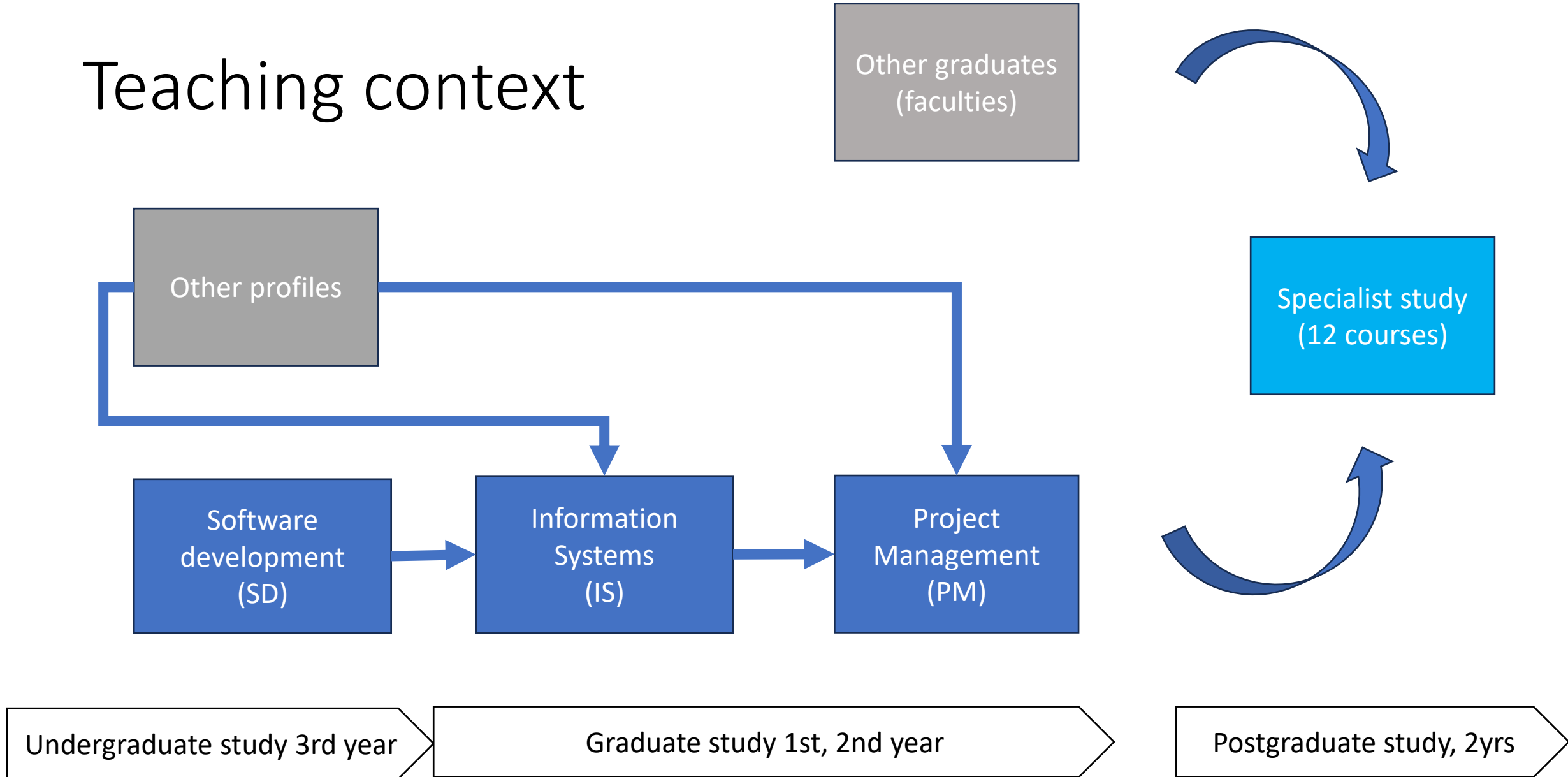
Student flow and success trends in computing studies

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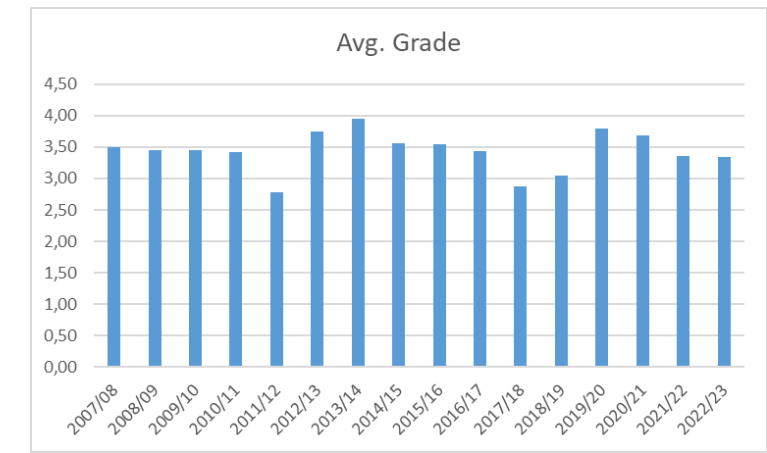
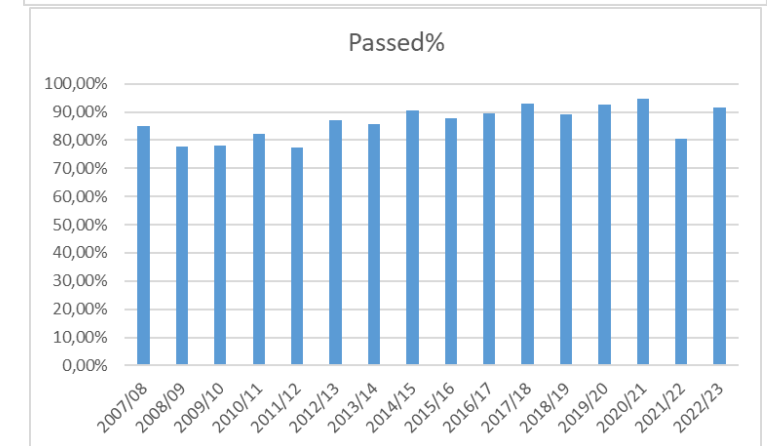
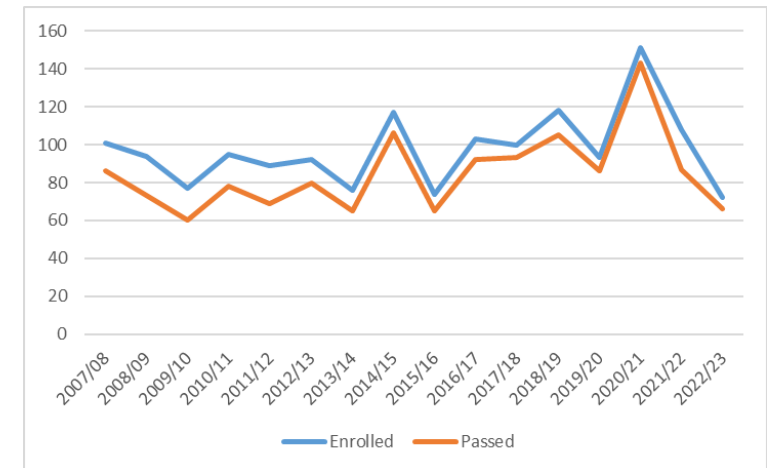
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Teaching context



Software development

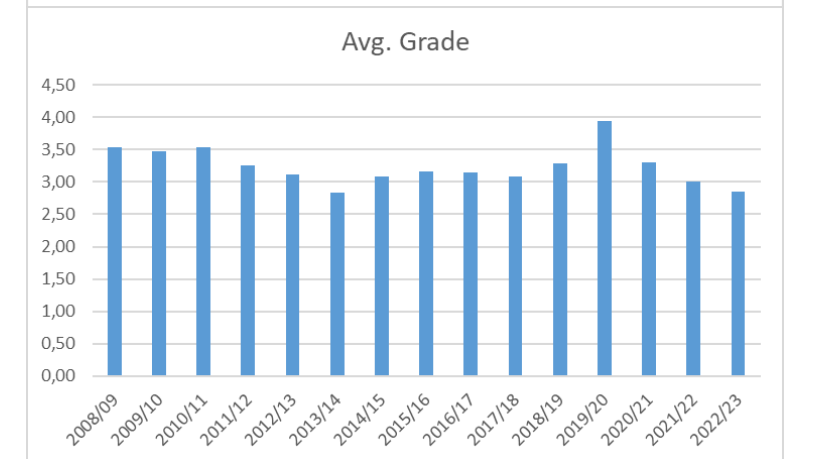
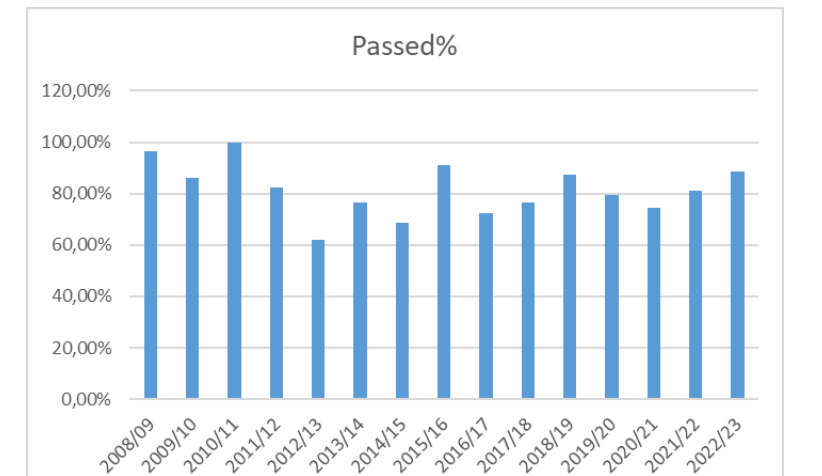
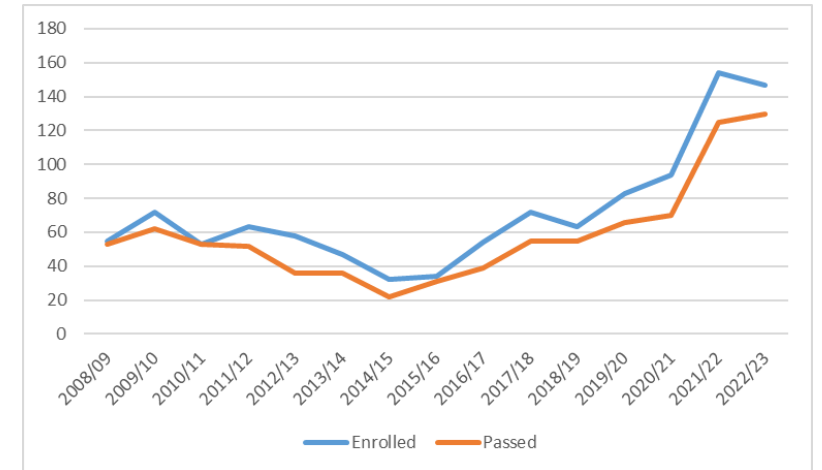
Year	Enrolled	Passed	Passed%	Avg. Grade	
2007/08	101	86	85,15%	3,50	Dean 00
2008/09	94	73	77,66%	3,45	Gauss
2009/10	77	60	77,92%	3,45	
2010/11	95	78	82,11%	3,42	Dean 01
2011/12	89	69	77,53%	2,78	
2012/13	92	80	86,96%	3,74	
2013/14	76	65	85,53%	3,95	
2014/15	117	106	90,60%	3,56	Dean 02
2015/16	74	65	87,84%	3,55	
2016/17	103	92	89,32%	3,43	
2017/18	100	93	93,00%	2,88	
2018/19	118	105	88,98%	3,04	Dean 03
2019/20	93	86	92,47%	3,79	
2020/21	151	143	94,70%	3,68	New curriculum
2021/22	108	87	80,56%	3,36	
2022/23	72	66	91,67%	3,34	
average	98	85	86,37%	3,43	



- Developers become more successful

Information systems (SA&D)

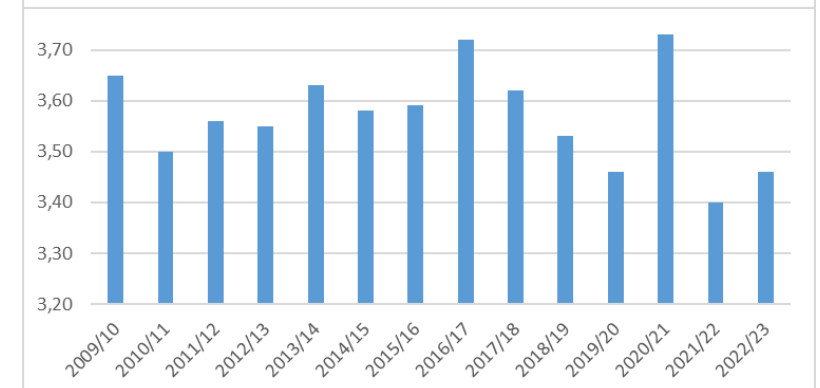
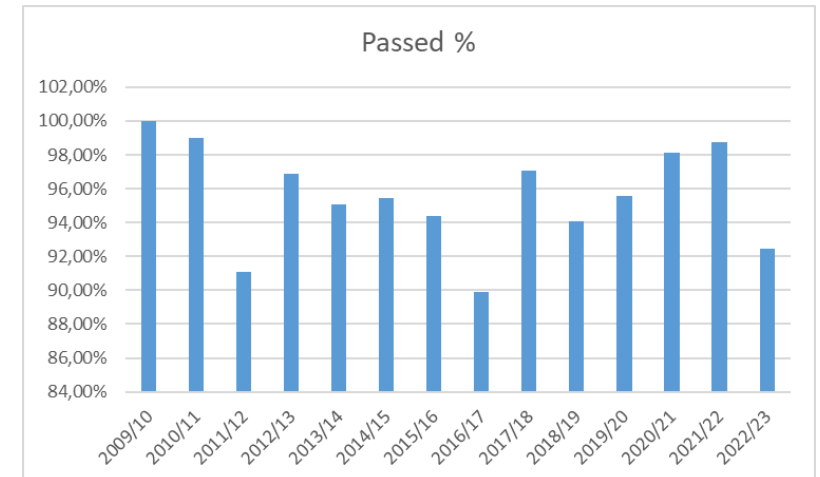
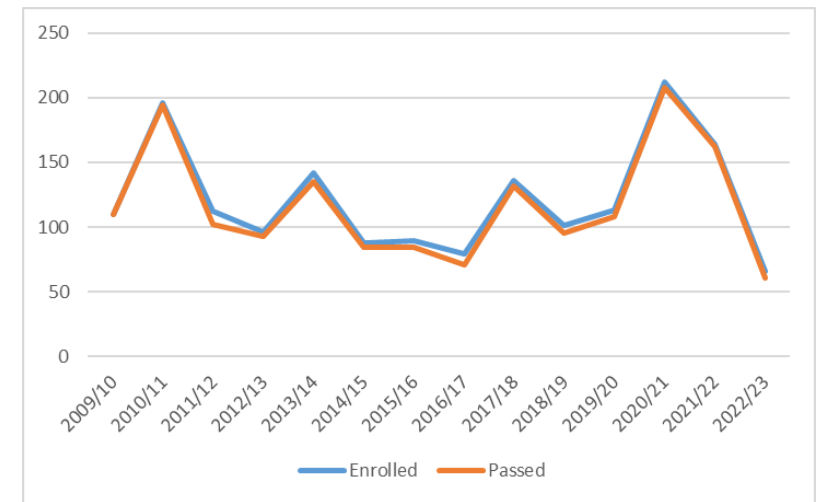
Year	Enrolled	Passed	Passed%	Avg. Grade	Dean 0
2008/09	55	53	96,36%	3,53	
2009/10	72	62	86,11%	3,47	
2010/11	53	53	100,00%	3,53	Dean 01
2011/12	63	52	82,54%	3,25	
2012/13	58	36	62,07%	3,11	
2013/14	47	36	76,60%	2,83	
2014/15	32	22	68,75%	3,09	Dean 02
2015/16	34	31	91,18%	3,16	<i>cleanup</i>
2016/17	54	39	72,22%	3,15	<i>restart</i>
2017/18	72	55	76,39%	3,09	<i>recovery</i>
2018/19	63	55	87,30%	3,29	Dean 03
2019/20	83	66	79,52%	3,94	<i>online tests</i>
2020/21	94	70	74,47%	3,30	<i>onsite tests</i>
2021/22	154	125	81,17%	3,00	New curriculum
2022/23	147	130	88,44%	2,85	
average	72	59	81,54%	3,24	



- Grade inverse to enrollment and decreasing

Project management

Year	Enrolled	Passed	Passed %	Avg. Grade	Dean 00
2009/10	110	110	100,00%	3,65	
2010/11	196	194	98,98%	3,50	Dean 01
2011/12	112	102	91,07%	3,56	
2012/13	96	93	96,88%	3,55	
2013/14	142	135	95,07%	3,63	
2014/15	88	84	95,45%	3,58	Dean 02
2015/16	89	84	94,38%	3,59	
2016/17	79	71	89,87%	3,72	
2017/18	136	132	97,06%	3,62	
2018/19	101	95	94,06%	3,53	Dean 03
2019/20	113	108	95,58%	3,46	
2020/21	212	208	98,11%	3,73	
2021/22	164	162	98,78%	3,40	FER3
2022/23	66	61	92,42%	3,46	
average	122	117	95,55%	3,57	



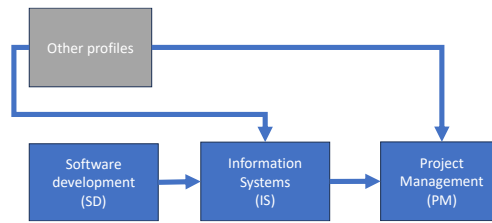
- Grades decreasing

Generation flow

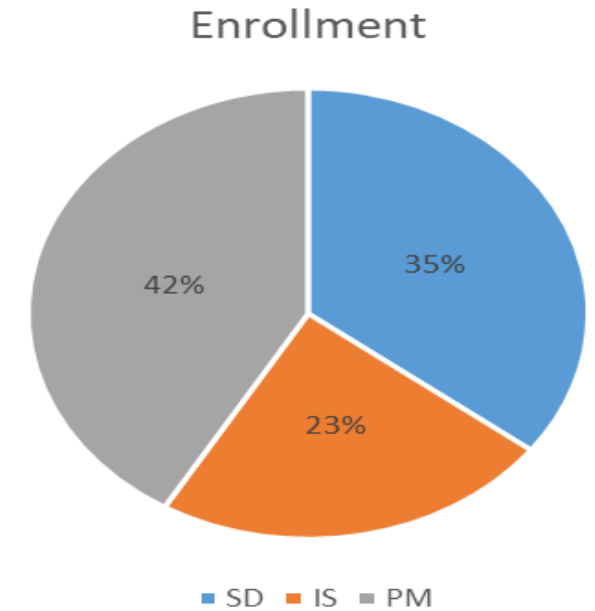
Software Development					Information Systems					Project Management				
Year	Enrolled	Passed	Passed%	Avg. Grade	Year	Enrolled	Passed	Passed%	Avg. Grade	Year	Enrolled	Passed	Passed %	Avg. Grade
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2008/09	94	73	77,66%	3,45	2009/10	72	62	86,11%	3,47	2010/11	196	194	98,98%	3,50
2009/10	77	60	77,92%	3,45	2010/11	53	53	100,00%	3,53	2011/12	112	102	91,07%	3,56
2010/11	95	78	82,11%	3,42	2011/12	63	52	82,54%	3,25	2012/13	96	93	96,88%	3,55
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2018/19	118	105	88,98%	3,04	2019/20	83	66	79,52%	3,94	2020/21	212	208	98,11%	3,73
2019/20	93	86	92,47%	3,79	2020/21	94	70	74,47%	3,30	2021/22	164	162	98,78%	3,40
2020/21	151	143	94,70%	3,68	2021/22	154	125	81,17%	3,00	2022/23	66	61	92,42%	3,46
2021/22	108	87	80,56%	3,36	2022/23	147	130	88,44%	2,85	average	122	117	95,55%	3,57
2022/23	72	66	91,67%	3,34	average	72	59	81,54%	3,24					
average	98	85	86,37%	3,43										

- Early generations advanced
- Current generations are regressing

Student flow



Course	SD	IS	PM
Unique Enrollment	1444	948	1692
Avg. Grade	3,48	3,22	3,65



	Enrolled	Grade1	Grade2
SD & IS	560	3,53	3,22
IS & PM	205	2,23	3,58
SD & PM	215	3,52	3,64
SD & PM w/o IS	79	3,47	3,72

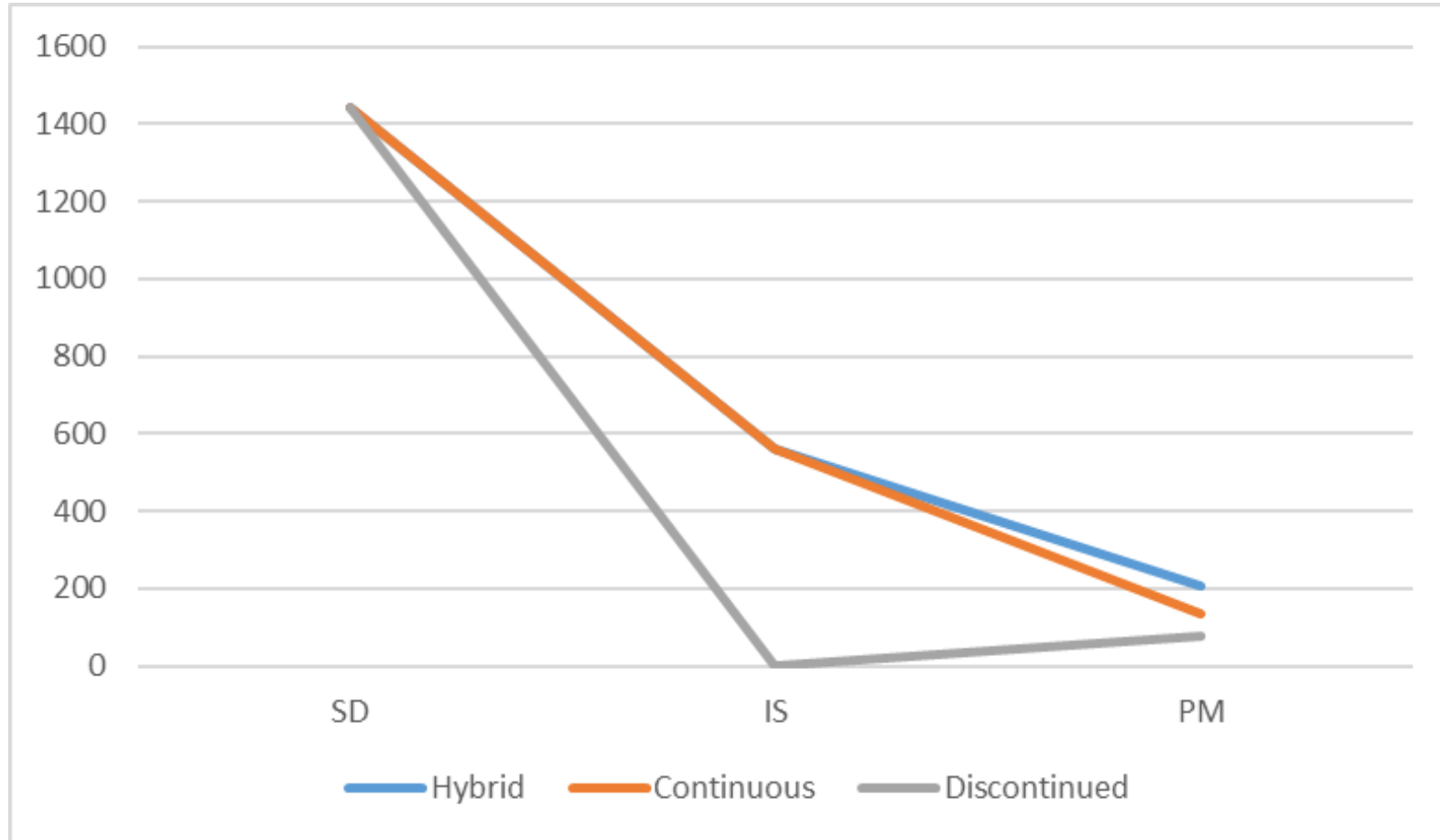
SD & IS & PM	Grade SD	Grade IS	Grade PM
134	3,54	3,19	3,61

39% SW developers enroll IS
22% IS developers enroll PM
15% SW developers like PM
5% SW developers avoid IS

9,28% complete professionals

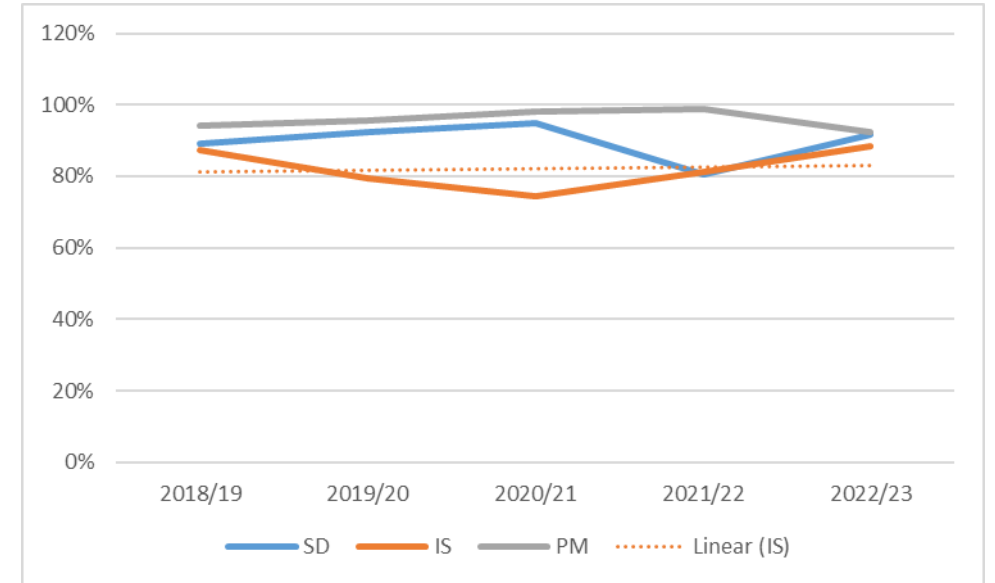
The pipeline

Pipeline	Hybrid	Continuous	Discontinued
SD	1444	1440	1440
IS	560	560	0
PM	205	134	79

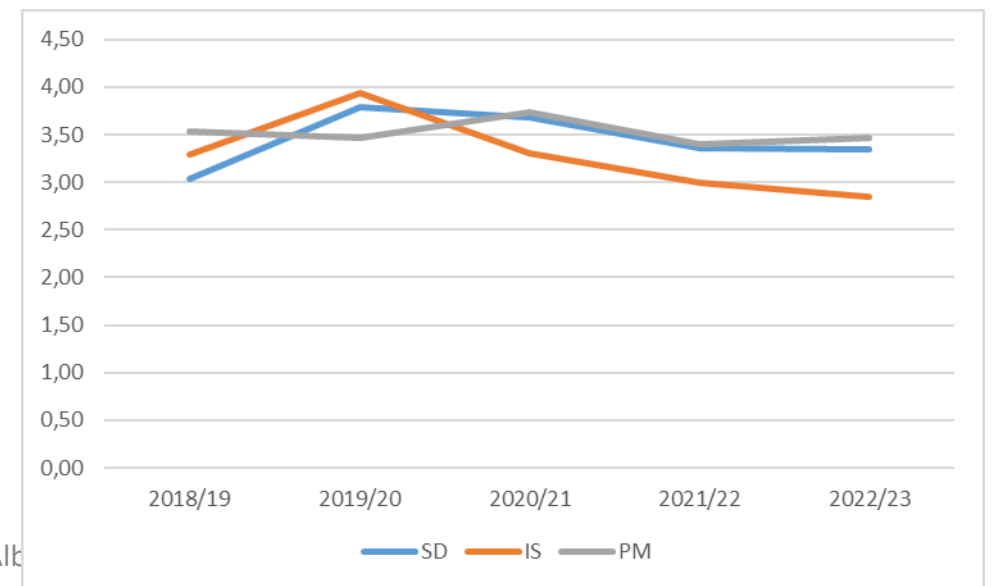


Covid-19 repercussions

Success	SD	IS	PM
2018/19	89%	87%	94%
2019/20	92%	80%	96%
2020/21	95%	74%	98%
2021/22	81%	81%	99%
2022/23	92%	88%	92%

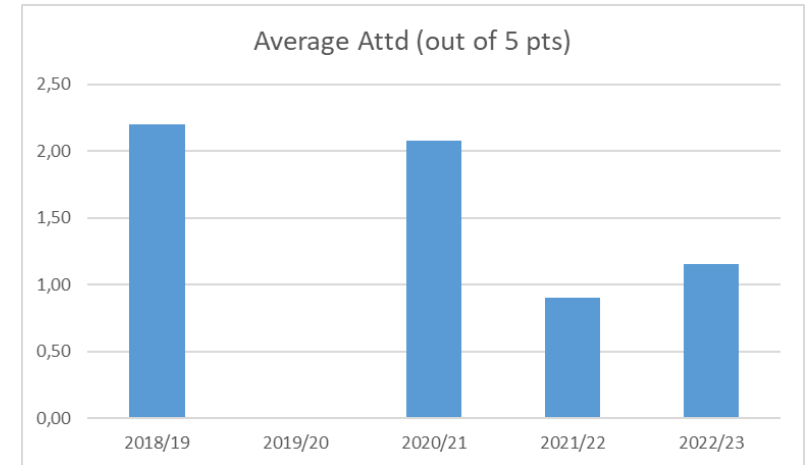


Avg. Grade	SD	IS	PM
2018/19	3,04	3,29	3,53
2019/20	3,79	3,94	3,46
2020/21	3,68	3,30	3,73
2021/22	3,36	3,00	3,40
2022/23	3,34	2,85	3,46

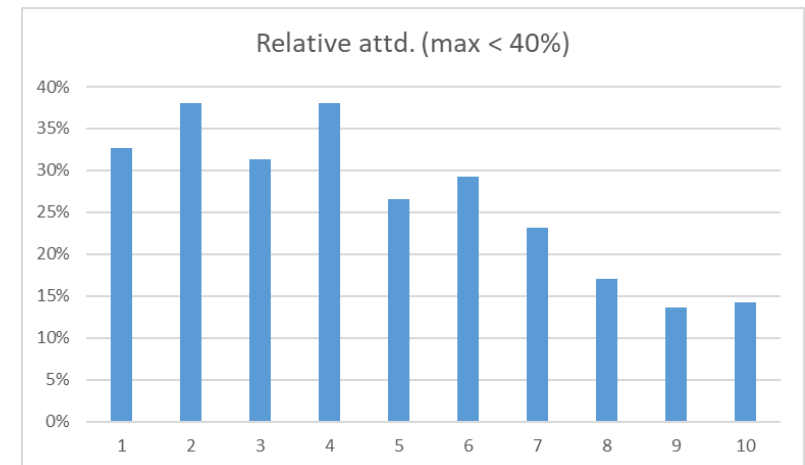
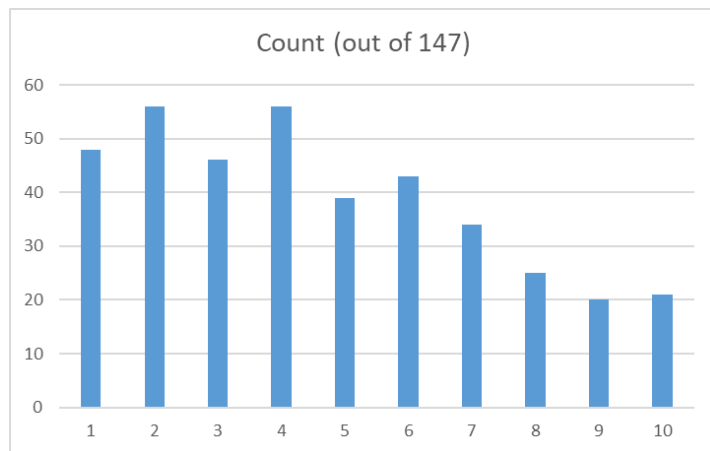


Attendance trends (IS sample)

Year	Average Attd (out of 5 pts)
2018/19	2,20
2019/20	0,00
2020/21	2,08
2021/22	0,90
2022/23	1,15



Distribution within ac. year	1	2	3	4	5	6	7	8	9	10
Count (out of 147)	48	56	46	56	39	43	34	25	20	21
Relative attd. (max < 40%)	33%	38%	31%	38%	27%	29%	23%	17%	14%	14%



Postgraduate study „Project management”

Enrolled students total	42
Average birth year	1985
Average graduation year	2012
Alumni FER	11
26% alumni FER, none enrolled SD, IS, PM !	

Domain	Technical	Social
absolute	14	28
relative	33%	67%

Sector	Private	State own
absolute	20	22
relative	48%	52%

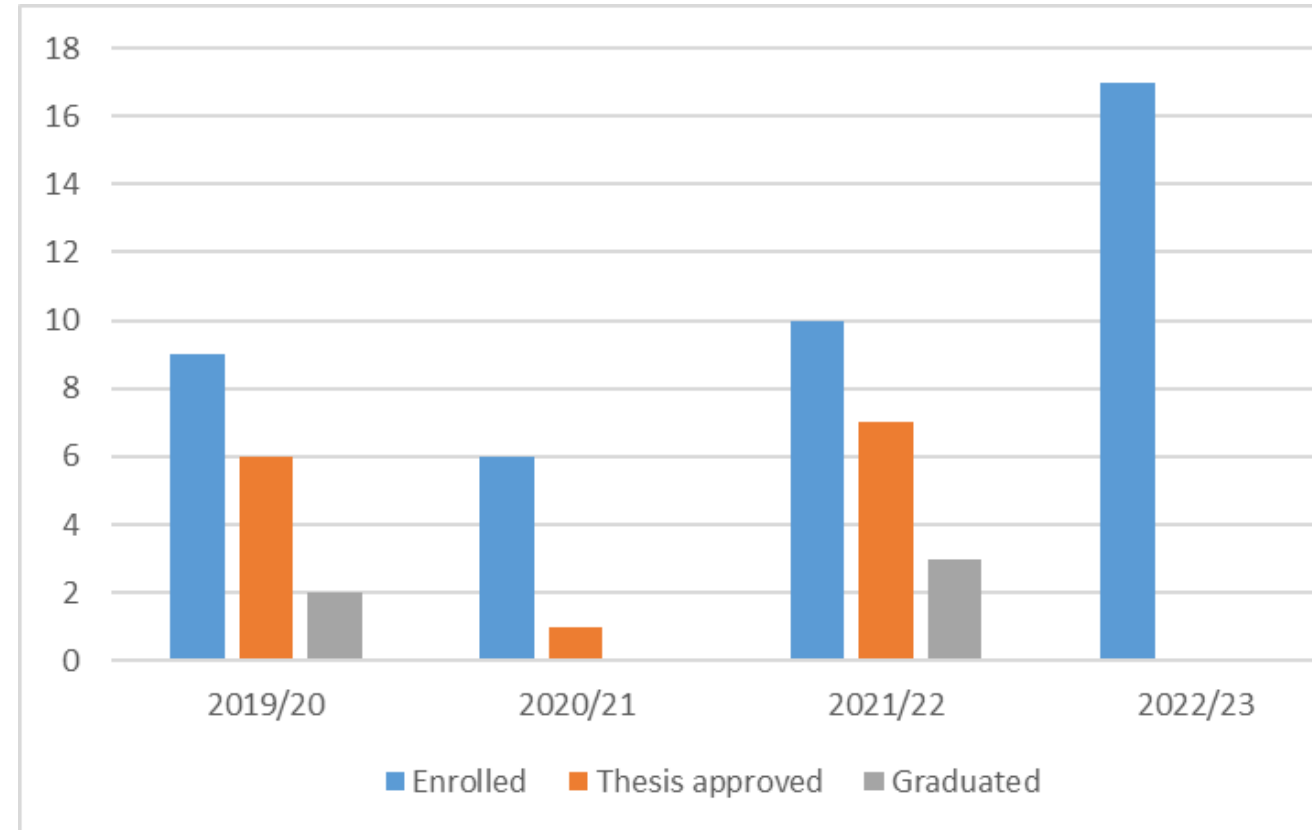
Financing	Personal	Employer
absolute	25	17
relative	60%	40%

Gender	Female	Male
absolute	21	21
relative	50,00%	50,00%

Generation breakdown

Enroll Year	Enrolled	Thesis approved	Graduated
2019/20	9	6	2
2020/21	6	1	0
2021/22	10	7	3
2022/23	17	0	0
total	42	14	5

Relative	Thesis approved	Graduated
2019/20	67%	22%
2020/21	17%	0%
2021/22	70%	30%
2022/23	0%	0%
average	38%	13%



- Post-Covid postgraduate students perform better
- Engagement increases dramatically towards the end of (academic) year!

Indicators

- Developers become more successful
- Graduate course grade inversely proportional to enrolment
- Graduate course grades decreasing
- Early generations advanced - Current generations are regressing
- Covid-19 had some impact on success but not prevailing one
- Undergraduate and graduate student engagement generally decreases
 - Engagement drops in the middle of semester
- Post-Covid postgraduate students perform better
 - Engagement increases dramatically towards the end of (academic) year!