

How **Students** Experience the **Core Curriculum**

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Outline

Investigate aspects of how students experience the core

- Timing of the core
- Second language requirement
- Transfer credits for core requirements
- Grades earned in core classes
- Overlap of core and major requirements

Subpopulations for comparison

- NF vs. NT, by major groupings, those who changed majors

The Data

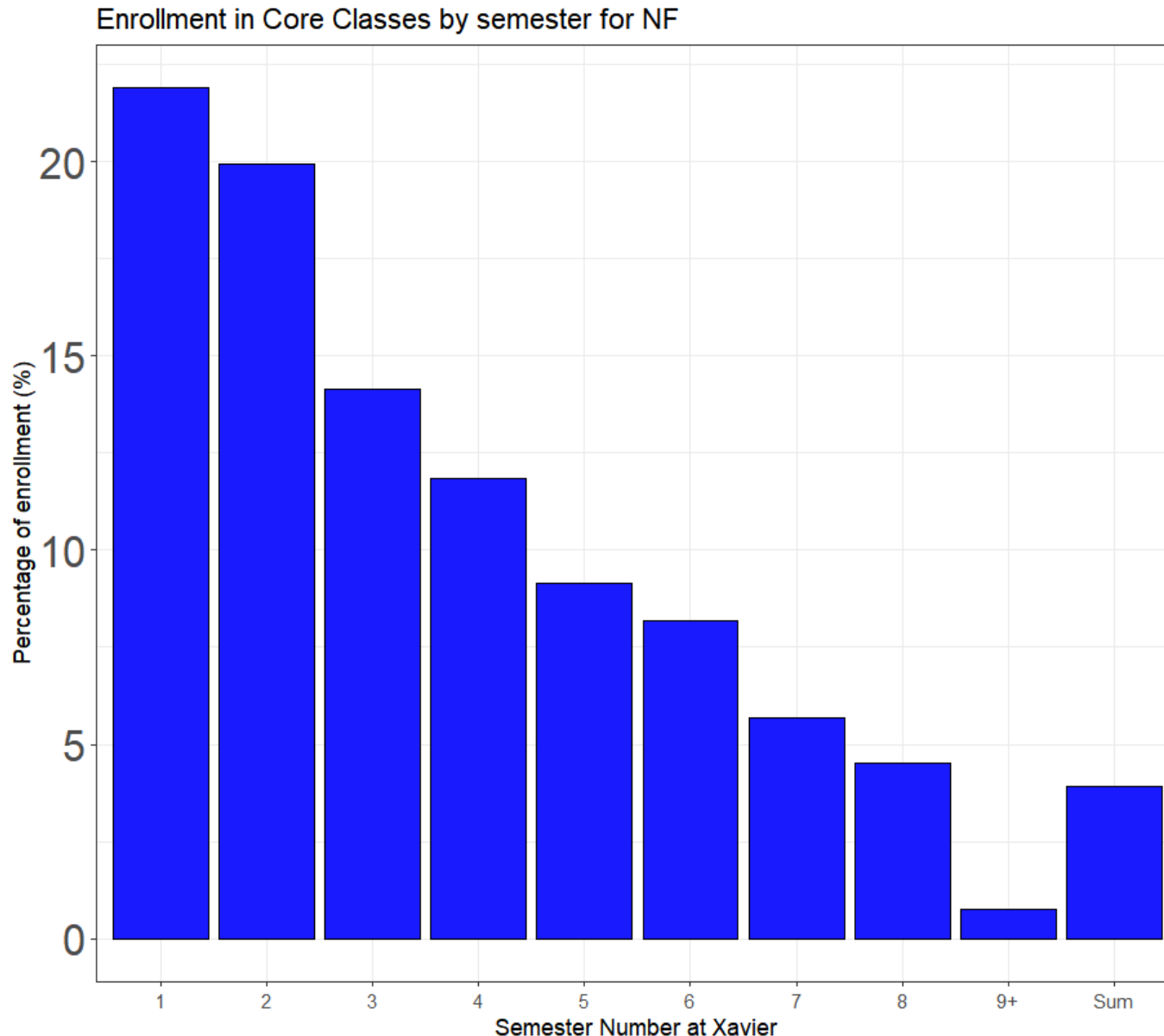
- Enrollments of students in courses that fulfill one or more **core requirements**
 - Does **not** include major classes
 - 263,608 instances of enrollment
 - Cohorts: Fall 2015 – Fall 2023
- Variables:
 - Randomized Student ID
 - Cohort Year
 - Cohort Code (NF, NT, etc)
 - Major, Degree
 - Term and Semester Number at XU
 - Course and Grade
 - Which requirement(s) the course fulfills

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Student ID-Random	Cohort	Cohort Code	Major	Degree	Term	Semester	Credits	Credits	Course	Grade	CORE 10	PHIL 10	THEO 10	English	language
2	N9XPKLOVU	201509 NF	NF	SPMG	BS	201509	1	12	3	MUSC 111	A	0	0	0	0	0
3	N9XPKLOVU	201509 NF	NF	SPMG	BS	201509	1	12	3	PHIL 100	B	0	1	0	0	0
4	N9XPKLOVU	201509 NF	NF	SPMG	BS	201509	1	12	2	PSYC 121	A	0	0	0	0	0

Timing

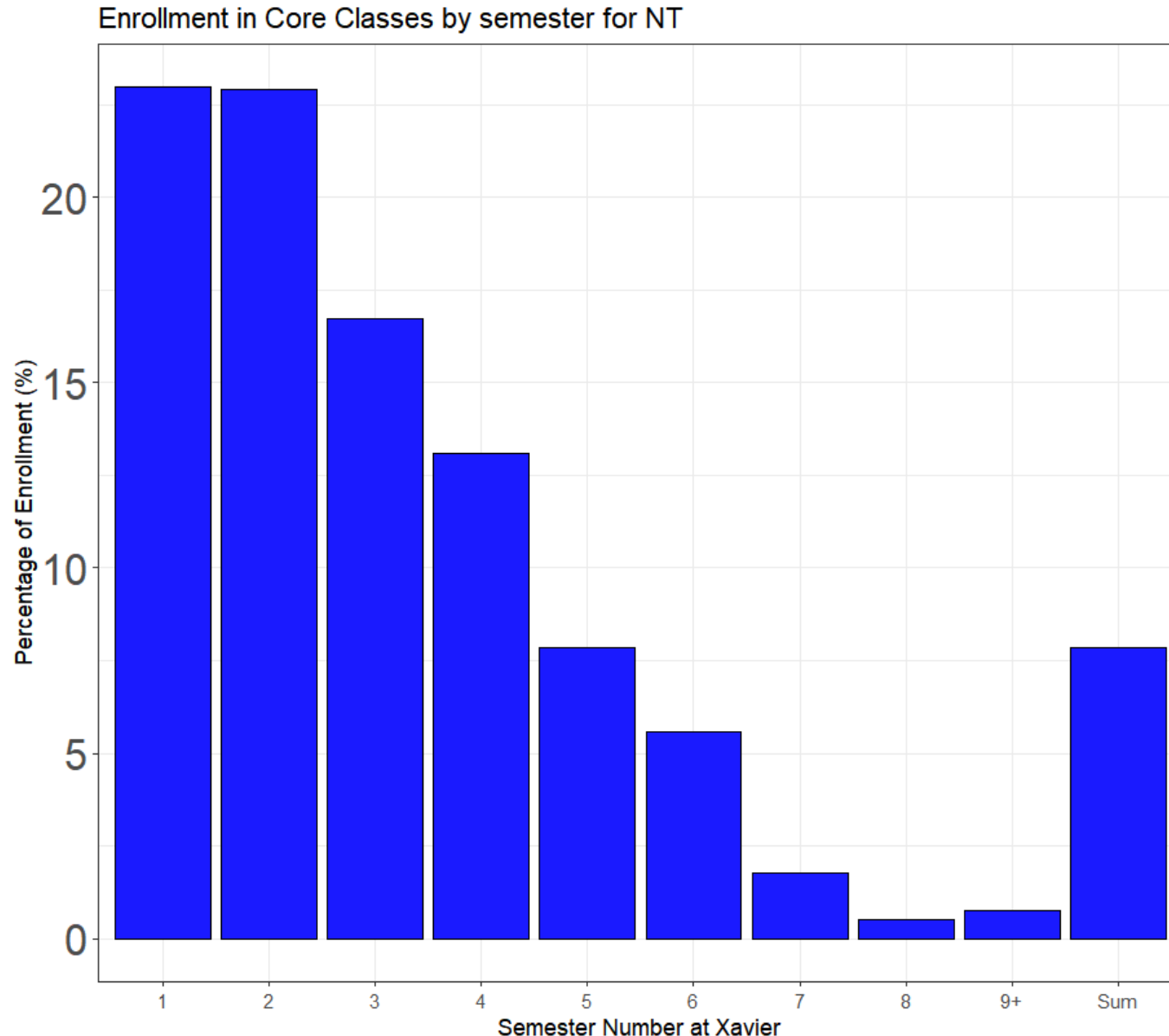
- When do students take their core classes?
- How does the timing differ between groups of similar majors?
- What classes are taken during the summer?

When do students take their core classes?



- Plot for New Freshmen (NF)
- 9+ all semesters after 4 years at Xavier
- Steady decline in enrollments

When do students take their core classes?



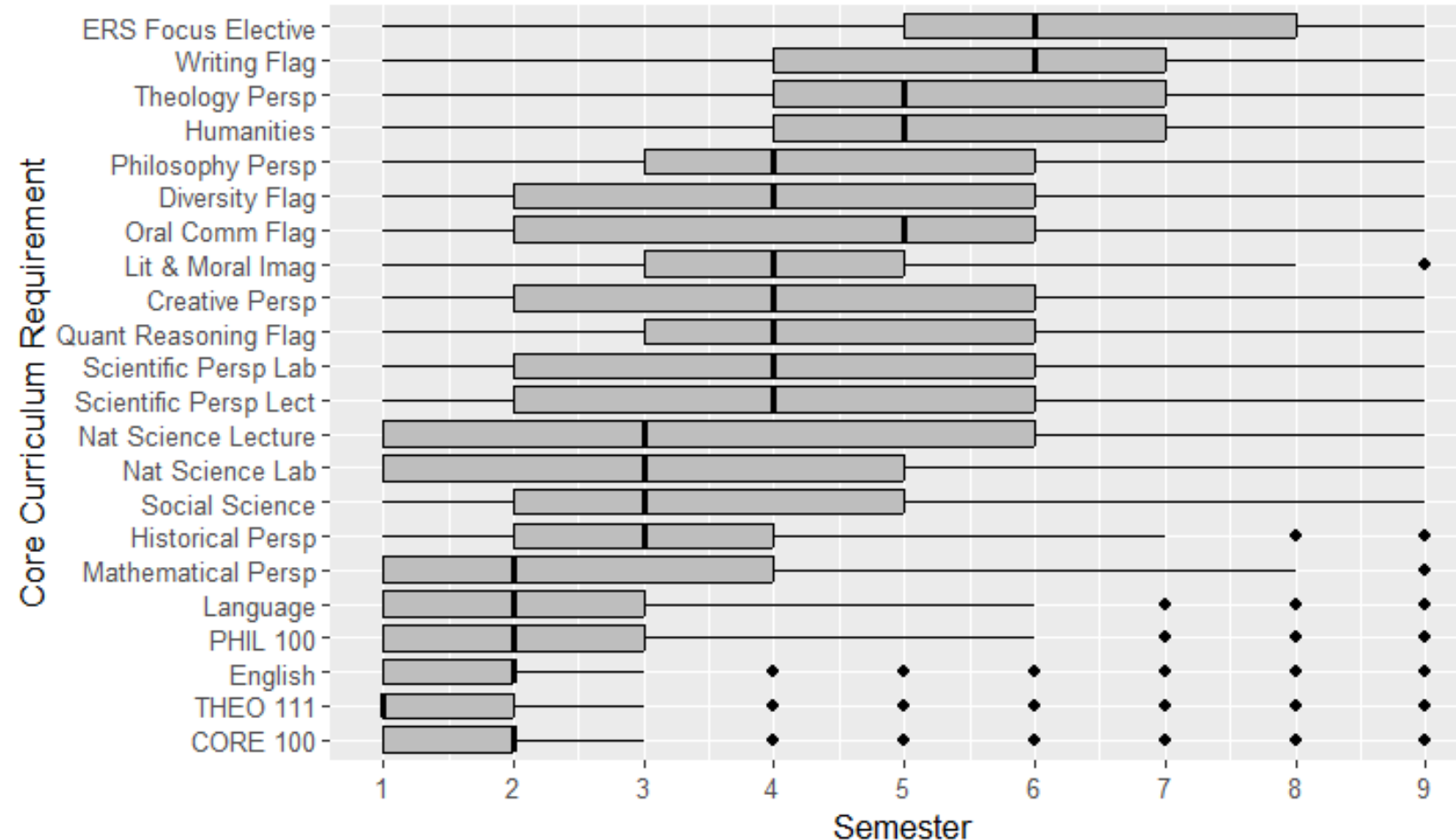
- Plot for New Transfers (NT)
- Still a decline, more dramatic
- Larger percentage of core enrollments in Summer

Timing of Individual Core Requirements

- We chose to make **boxplots** instead of barplots
 - Barplots would be too cluttered
 - Boxplots allow for easier comparison
- The **summer** data was taken out
 - Difficult to determine a semester value for summer data
 - Summer courses are unique
 - Summer courses addressed later

Timing of Enrollment in Core Courses for NF

Timing of Core Courses, 2015-2023 (NF)



- Little variation in CORE 100, THEO 111, and English
- Most students complete a majority of their courses before Senior year

How does timing differ between majors?

- Our groupings of similar majors, done to make visual comparisons
 - Data only includes one major per student

STEM: MACS, BIOC, BSFB, BIOL, BIMS, BIOP, CHEM, CSCI, DSCI, ENPH, ENVS, MATH, PHYS

Humanities/Social Sciences: ADVT, ARTS, CLHU, CMST, DIFT, DIME, ECSS, ENGL, FREN, GDST, GRAP, HIST, INST, MVED, MUSC, MUTR, PHIL, PPPU, POLI, PUBL, SOCI, SPAN, THTR, THED, THEO, **EXPL**, **LART**

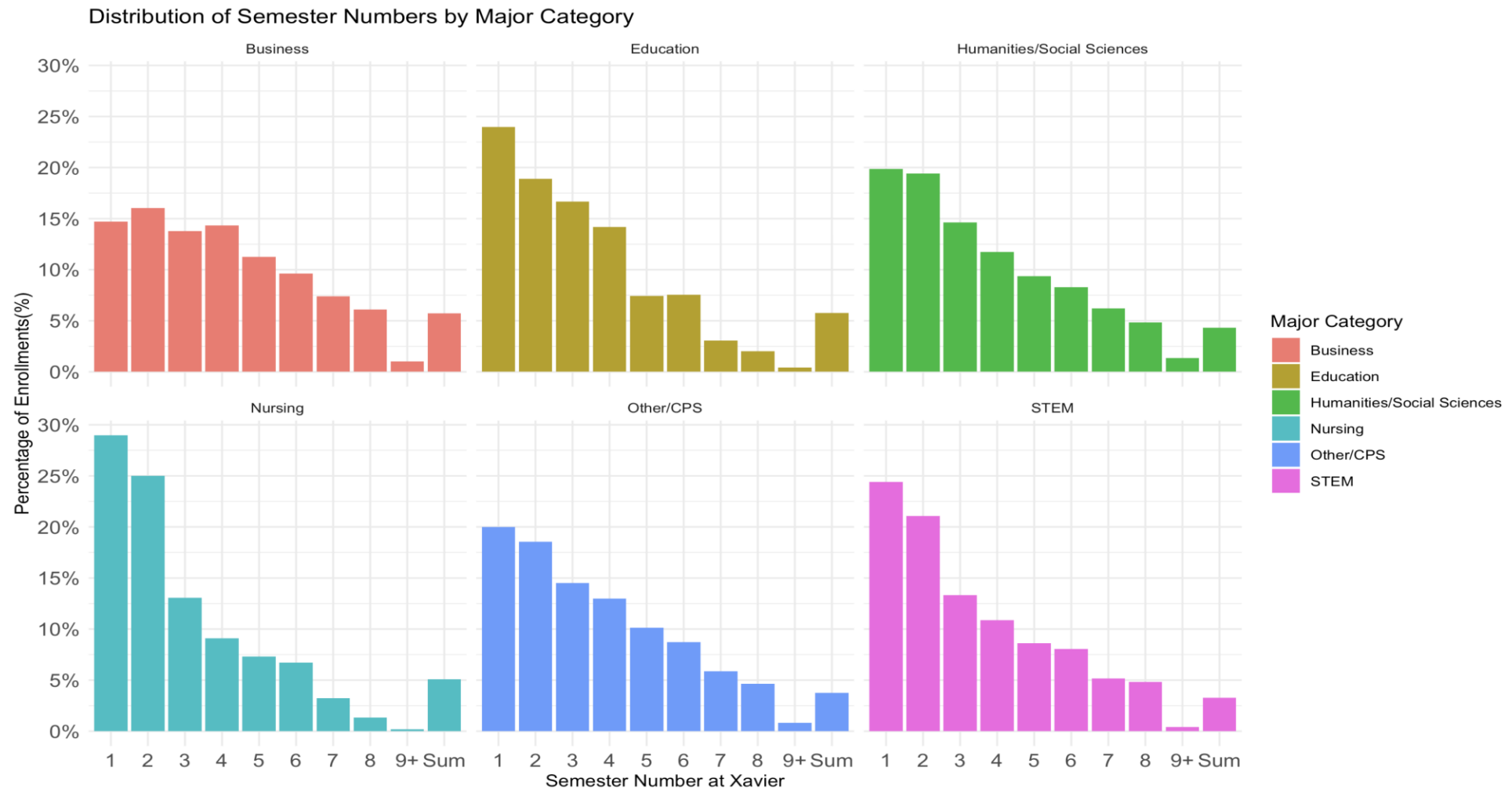
Nursing: NURE

Other/CPS: CJUS, EXES, HSEA, PSYC, SOCW, SPMG, SPMK

Education: MCED, MONT, ECED, SPEC, ELEM, TLSC, SEDU

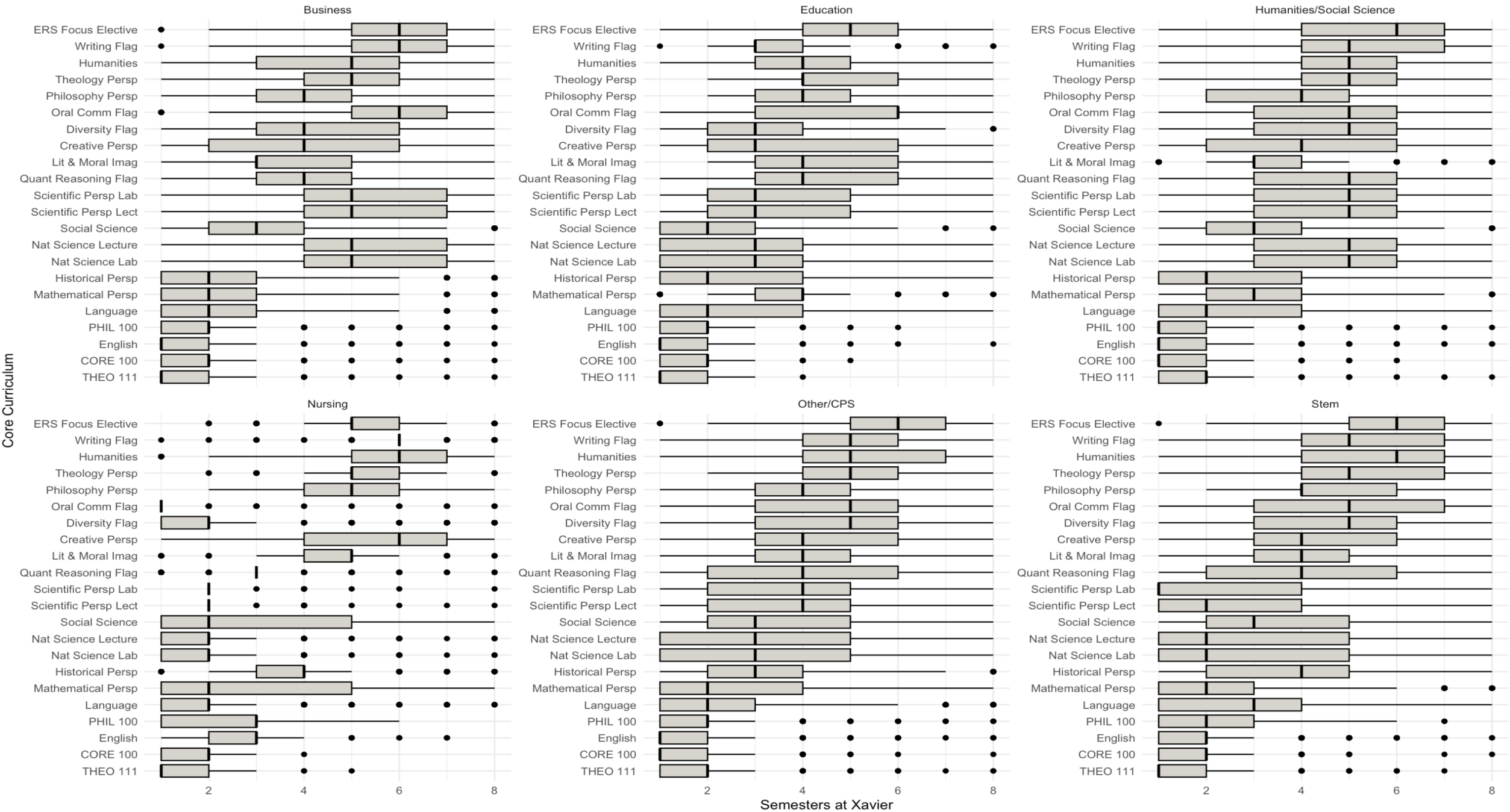
WCB: ACCT, **BAIS**, BUUN, ECON, ENTR, FINC, INBU, MGMT, MKTG

Overall core class timing, by major group

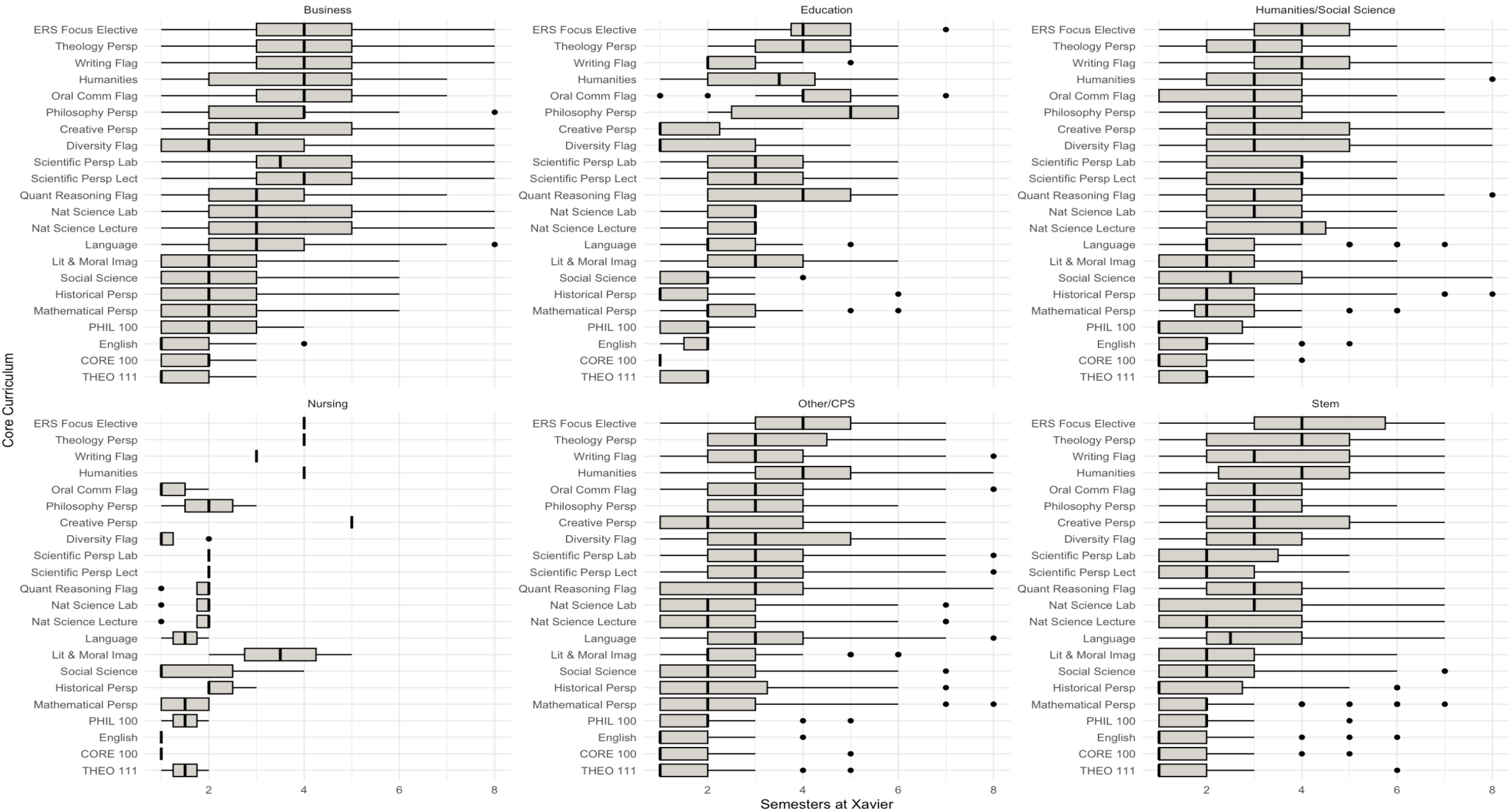


- Nursing, Education take core earlier; Business spreads out the core

Timing of Core Courses at Xavier for New Freshman (NF) Students 2015-2023



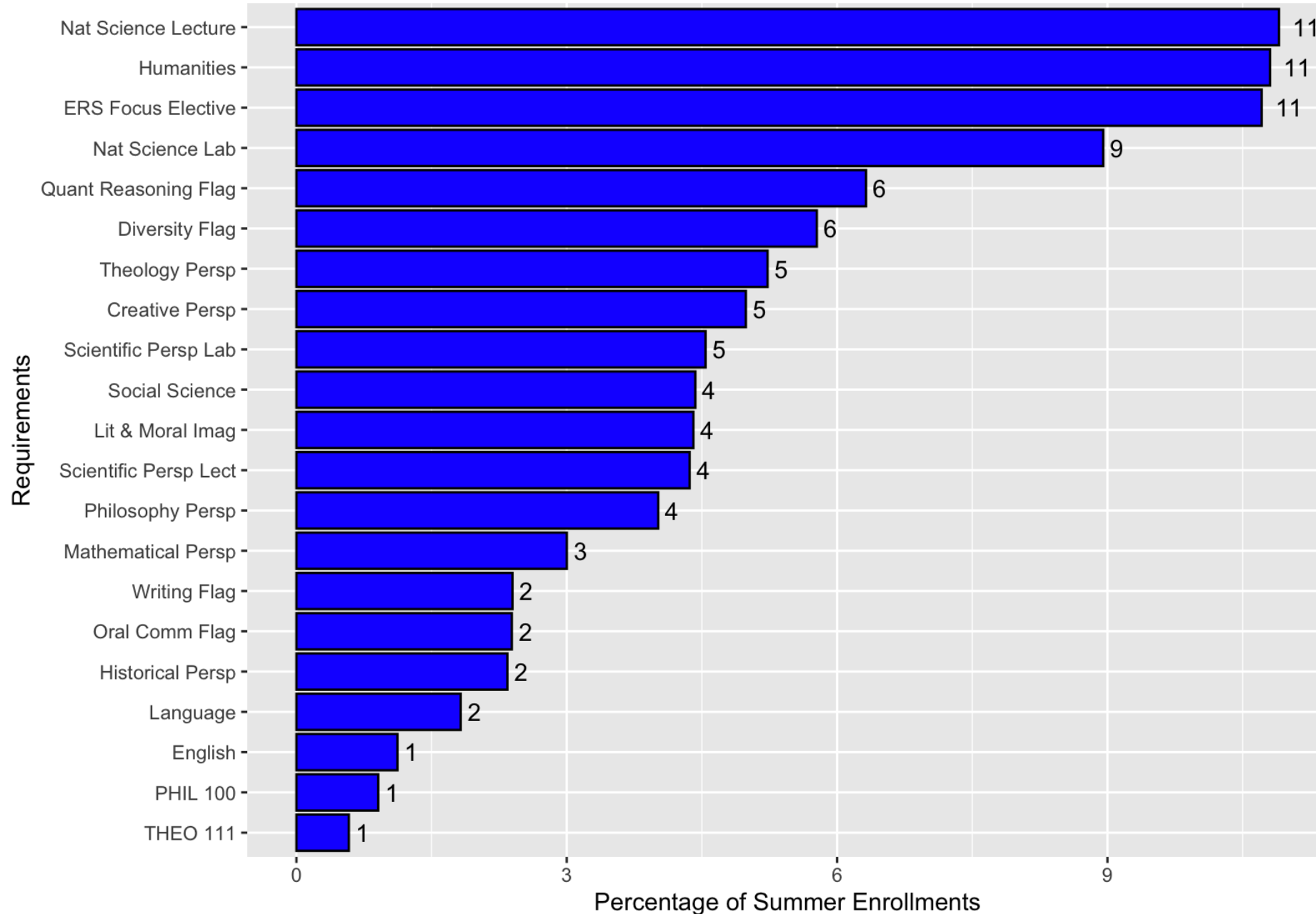
Timing of Core Courses at Xavier for New Transfer (NT) Students 2015-2023



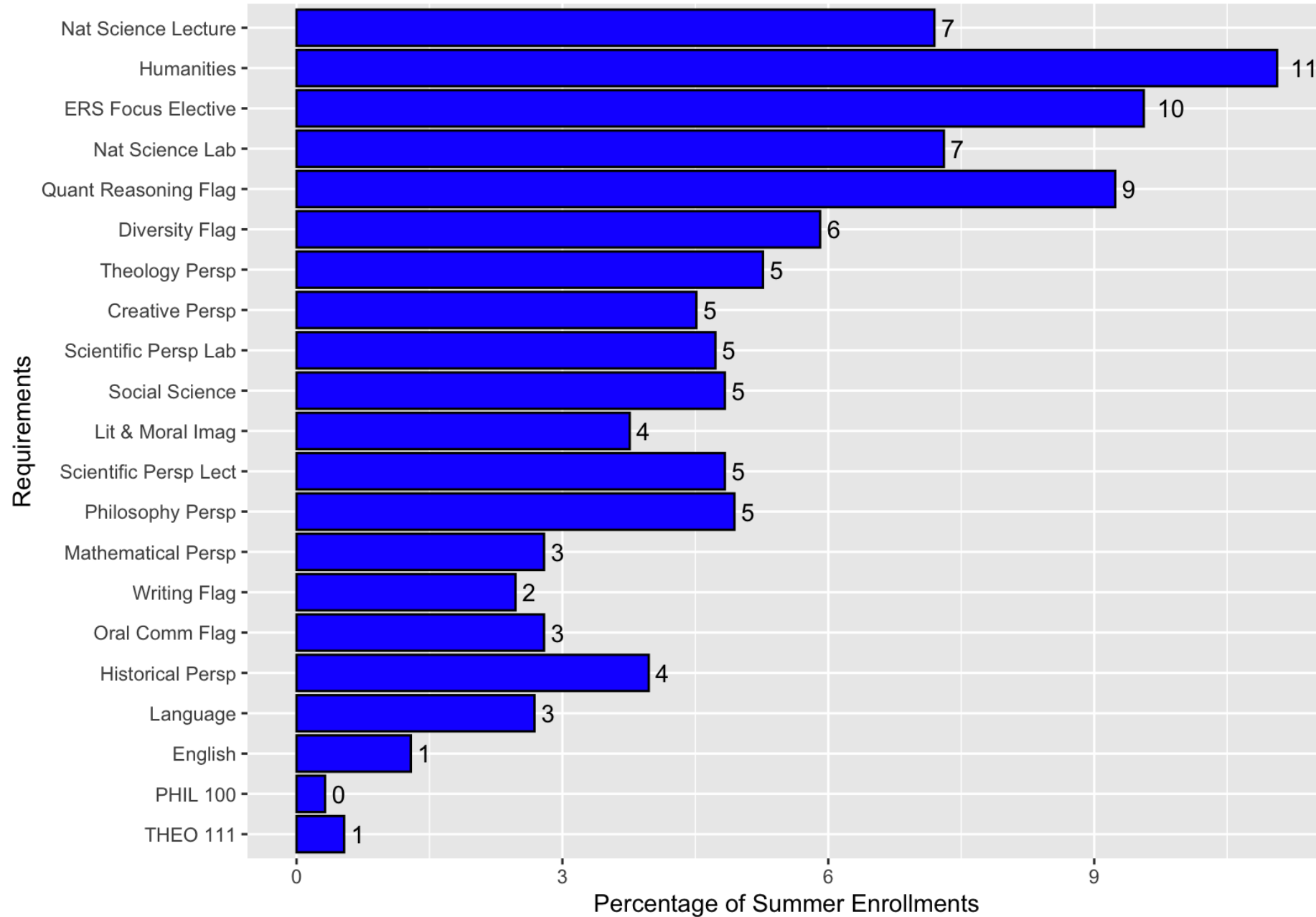
Back to Summer

- What classes are taken the most during the summer?
- Is there a difference between New Freshmen and New Transfers?

Requirements Fulfilled During Summer for New Freshmen (NF)



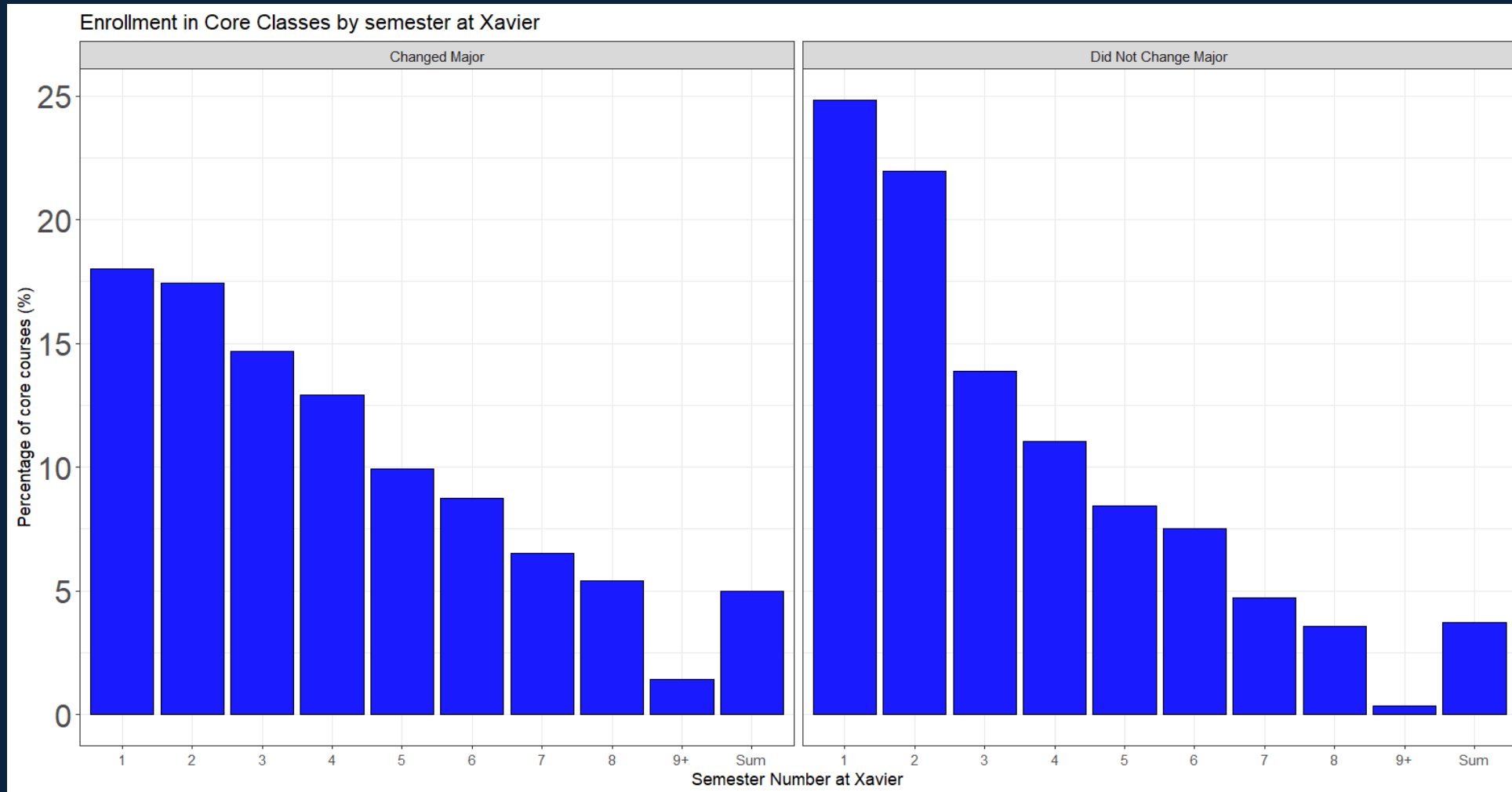
Requirements Fulfilled During Summer for New Transfers (NT)



Changing Majors

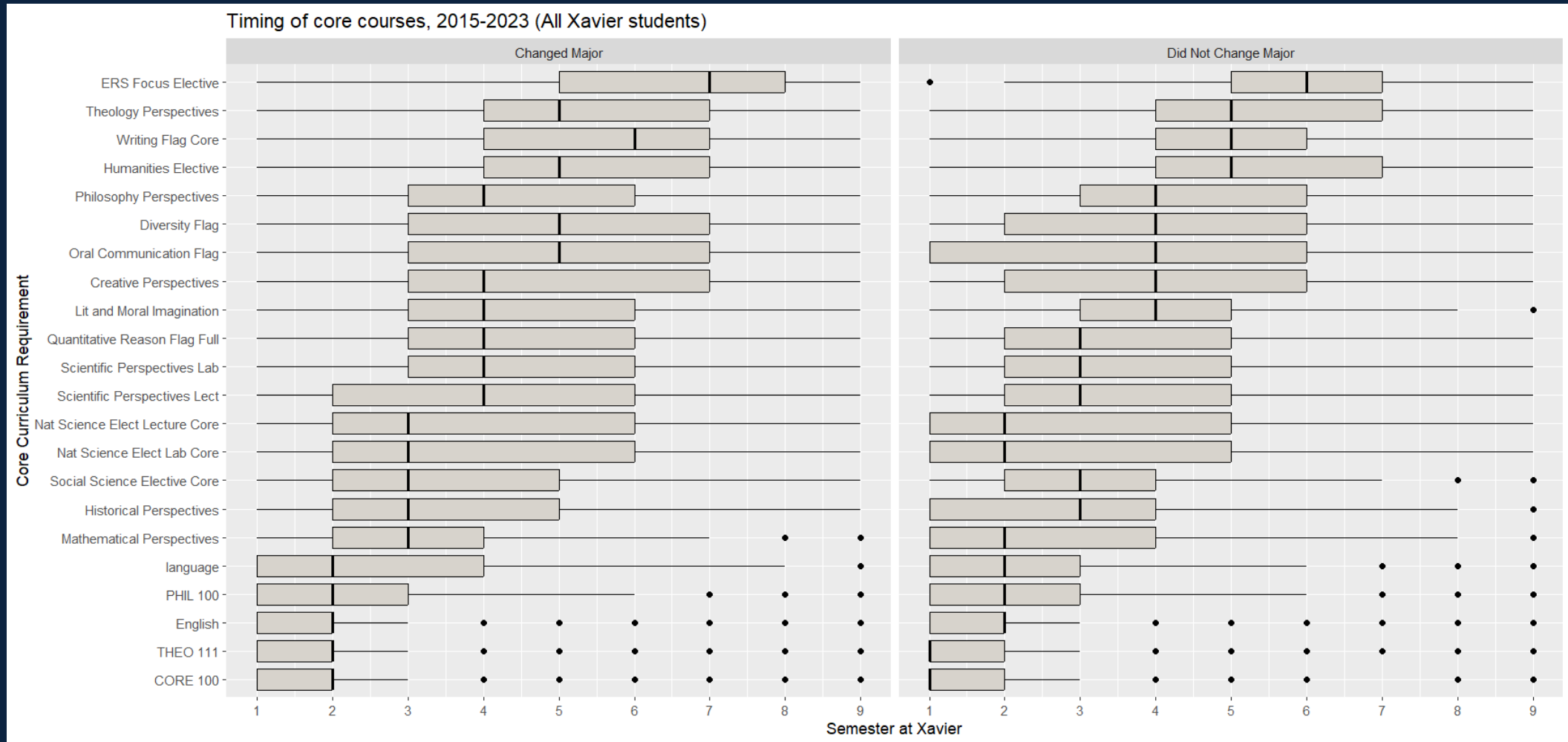
- How does changing majors affect the core experience?

How Changing Majors Affects Core



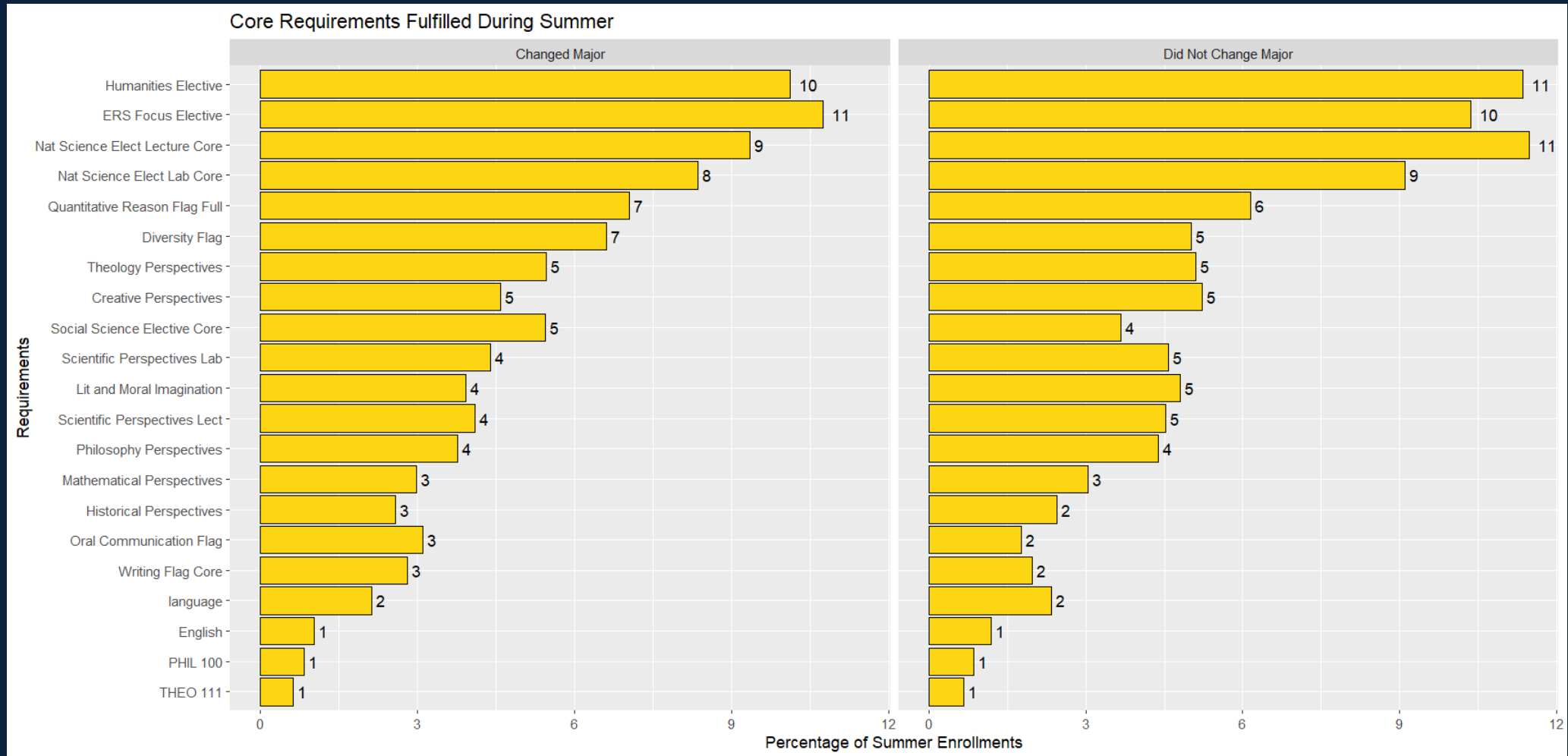
- Major change produces slight delay in core

Changing Majors and Timing of the Core



- Core completion shifts later slightly with major change

How Changing Majors Affects Core in the Summer



- The proportions of students for each requirement does not vary much if a student changes their major
- If they change their major there are generally a slightly lower proportion for each requirement

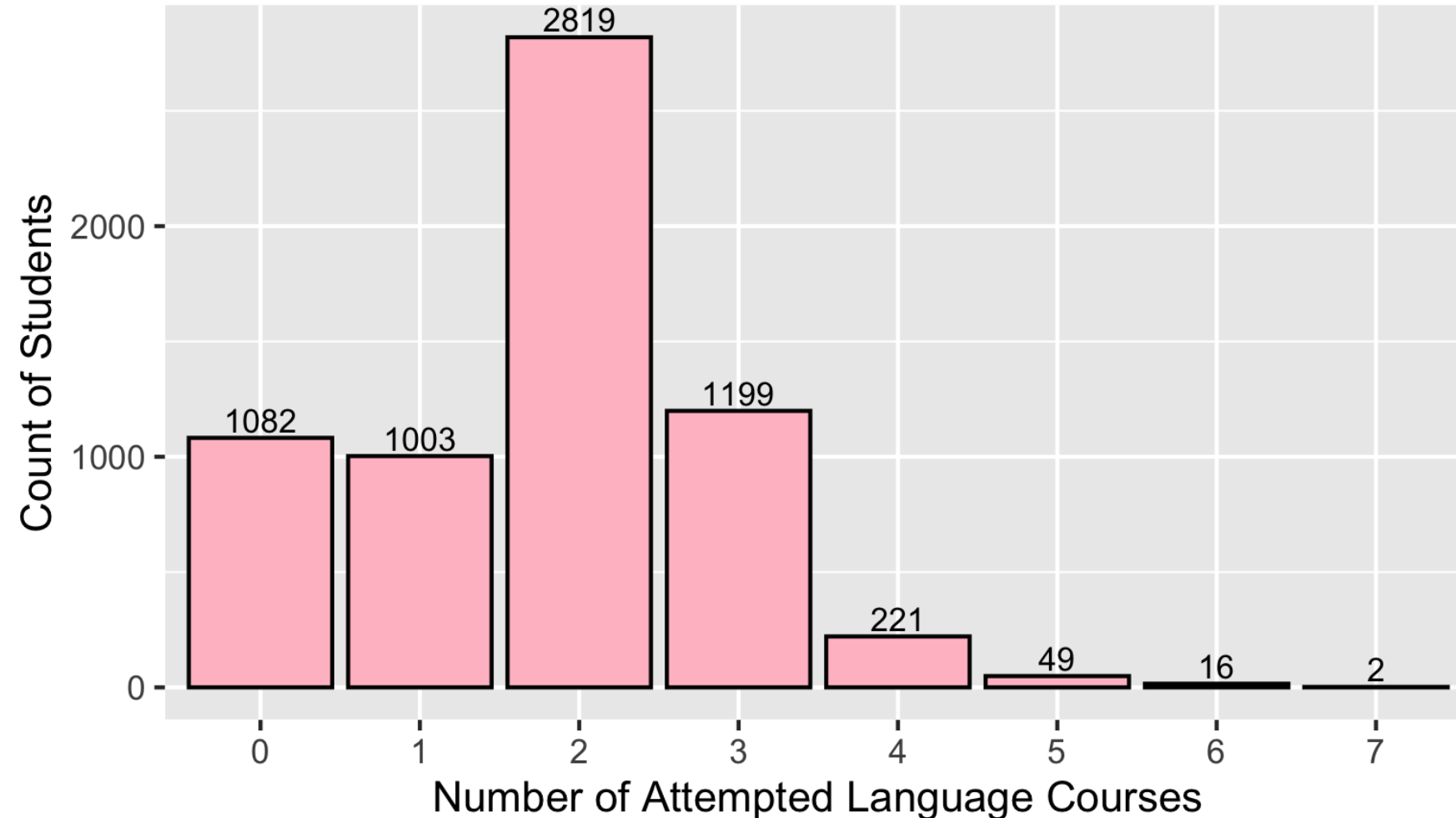
Second Language Requirement

- Who tested out of the language requirement?
 - How do we know who tested out vs. who just didn't finish the core curriculum?
- How many language courses are students taking to reach the required 201-level proficiency?

How did we distinguish between students who **finished** and those who **didn't**?

- Filtered data to include only the Student IDs that appeared in a list of students to stayed for **4 years**.
- If a student is on this list, we assume they graduated.
 - Two options for any missing requirements:
 - **Transfer** credit
 - **Tested out** of the requirement

Language Requirements

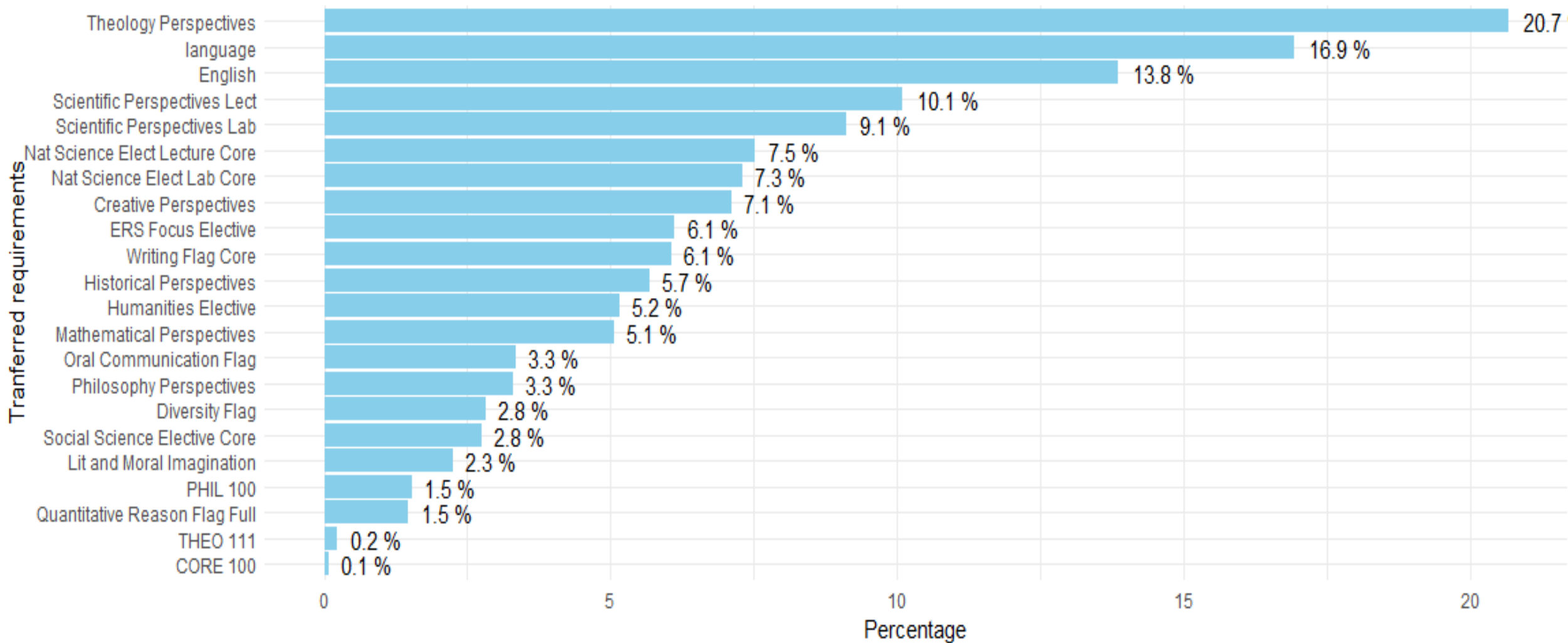


- 6391 total students
- 17% take no language
- 16% take 1
- 44% take 2
- Average = 2.34 courses to fulfill the second language requirement

Transfer Credit

- What courses are students using transfer credits to fulfill?
- What does this look like in the data?
 - Filtered by students who stayed four years at XU
 - Some requirements were not fulfilled:
 - Tested out of the course (Second Language requirement)
 - Transfer credit (AP courses, transferred from community colleges, etc.)

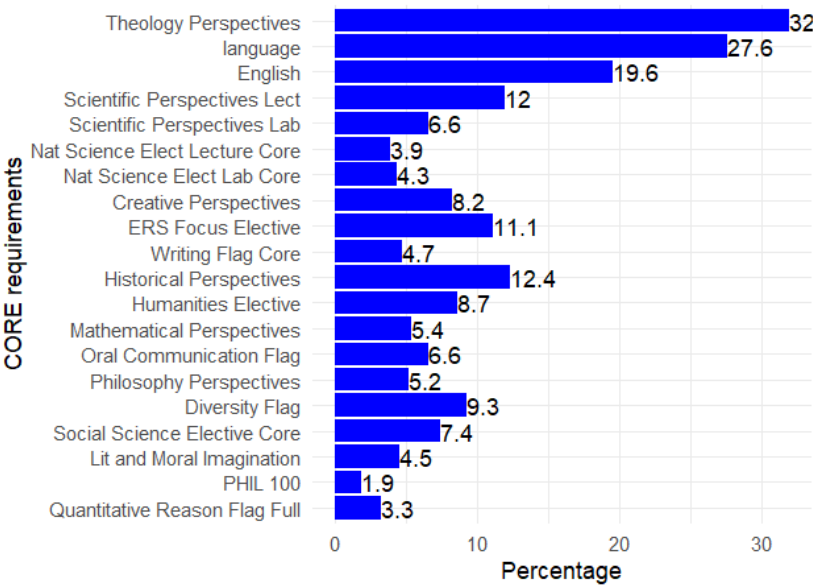
Transfer Credit for CORE requirements



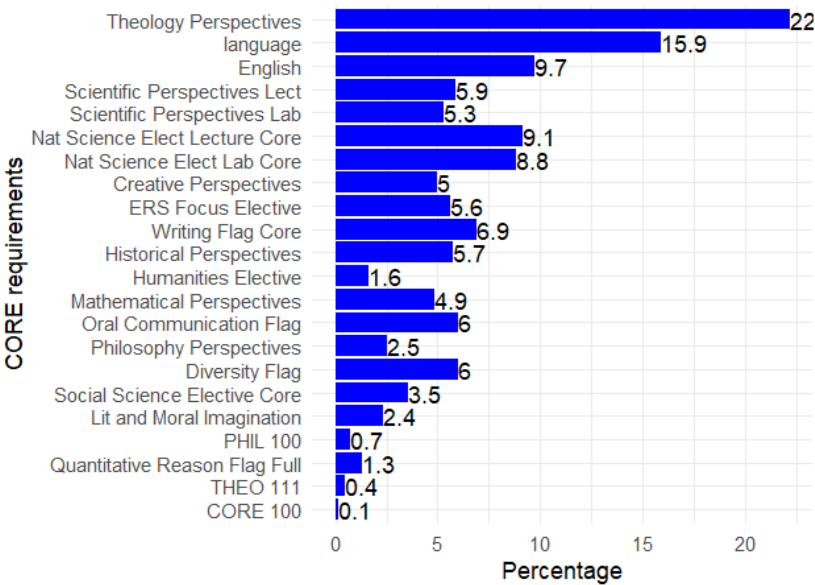
Population of 6391 retained students

Transfer Credit for CORE requirements by groups of majors

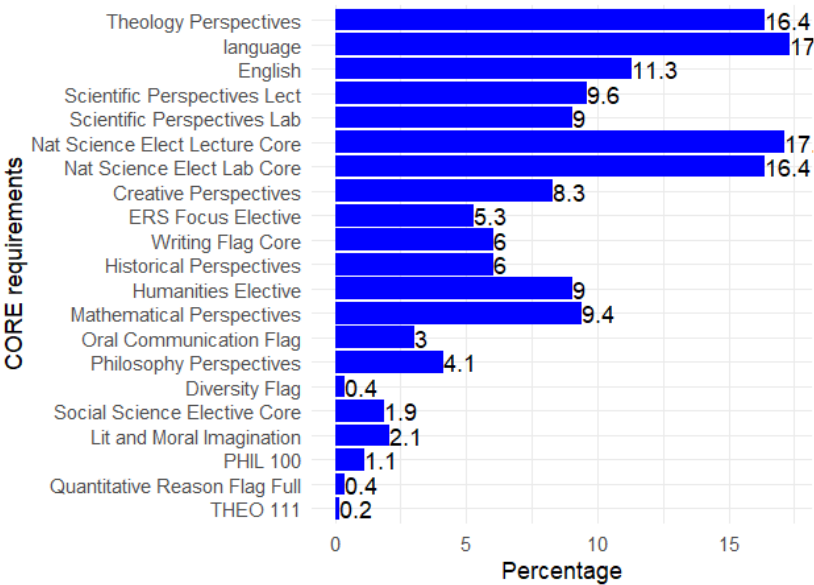
Transferred Requirements in Stem



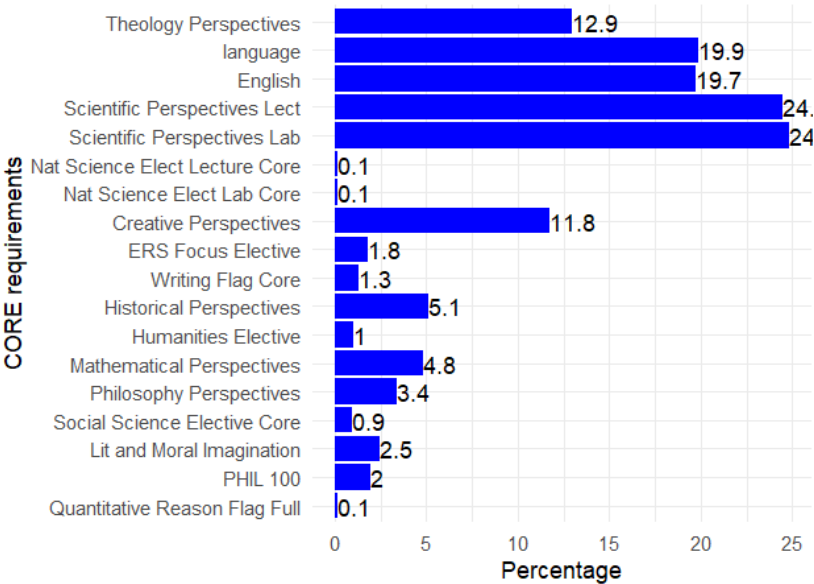
Transferred Requirements in Humanities/Social Science



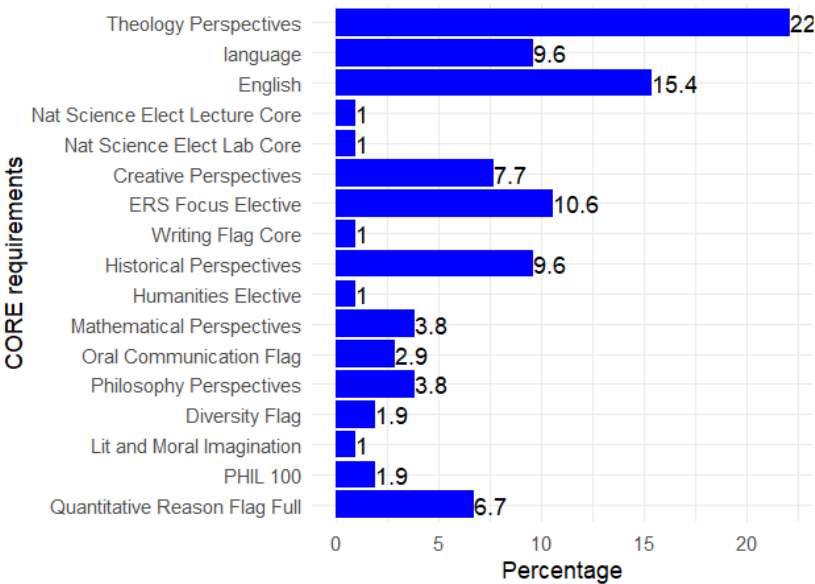
Transferred Requirements in WCB Majors



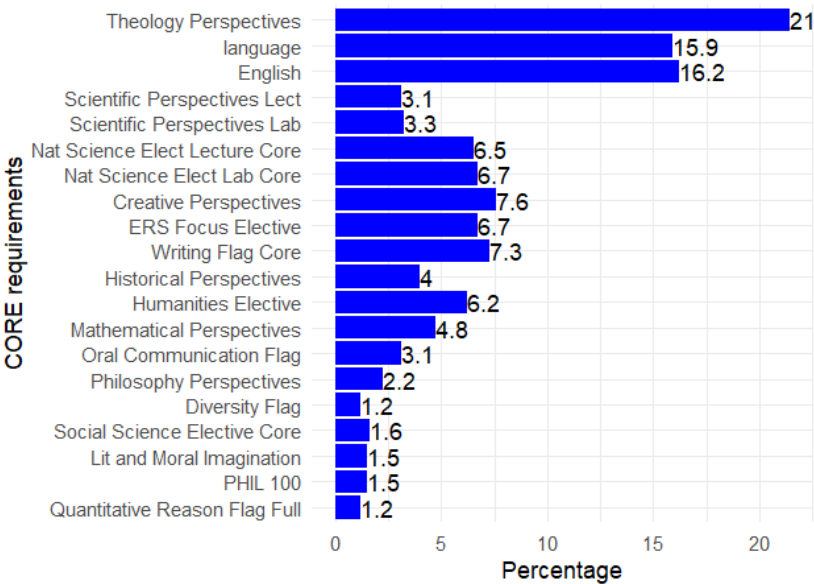
Transferred Requirements in Nursing



Transferred Requirements in Education



Transferred Requirements in Other/CPS

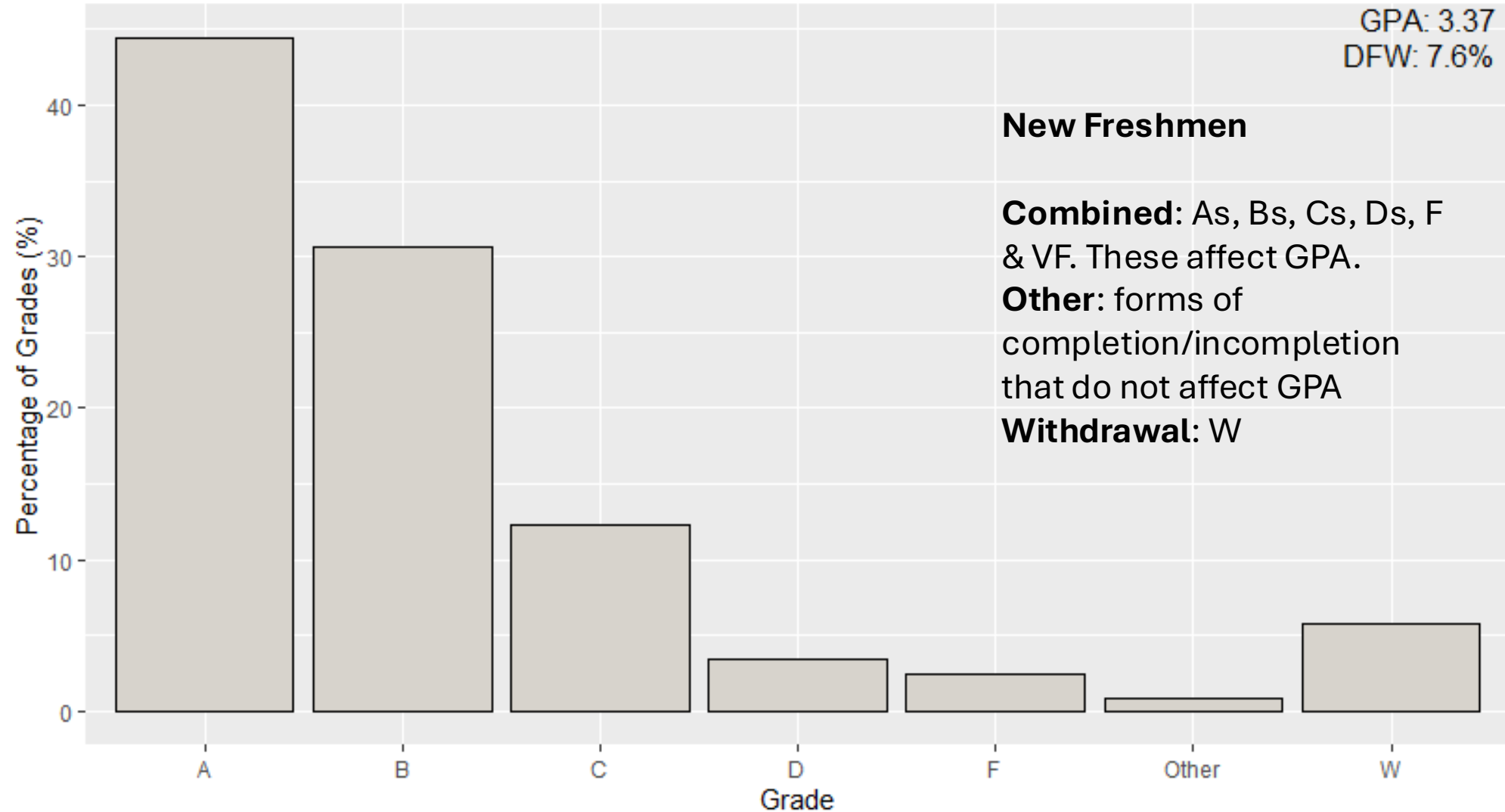


Grades

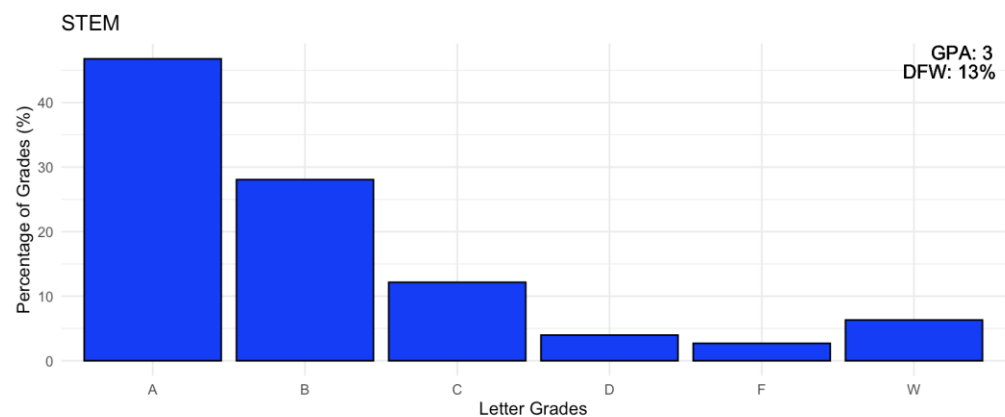
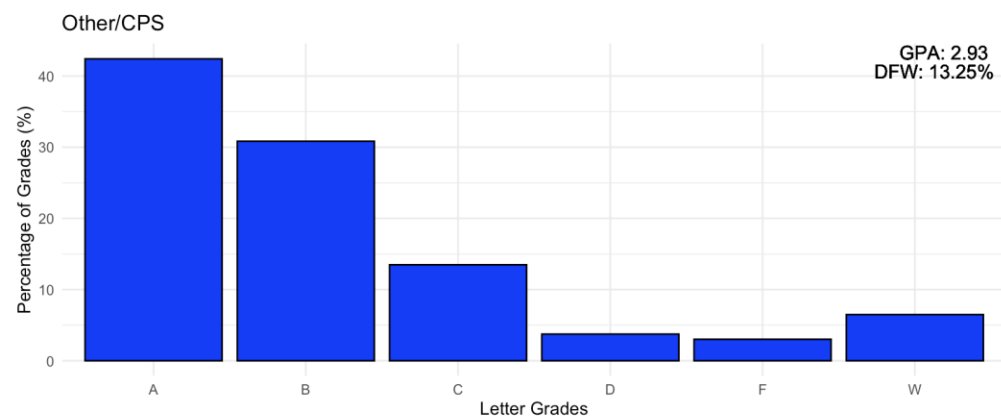
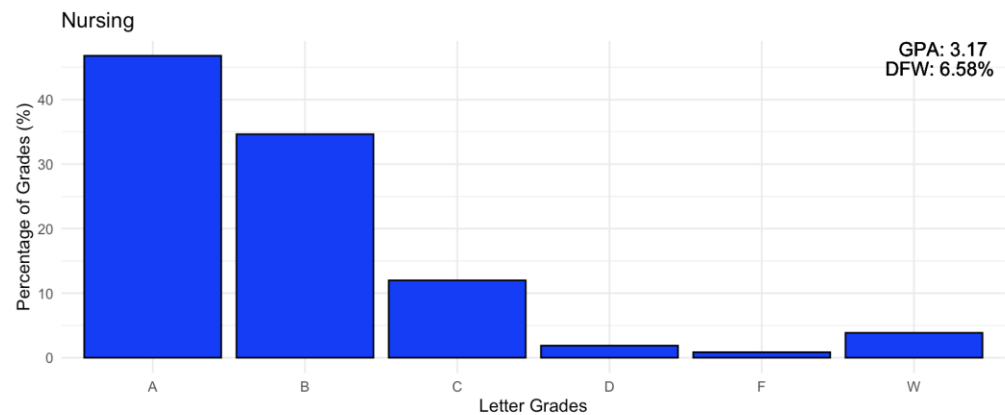
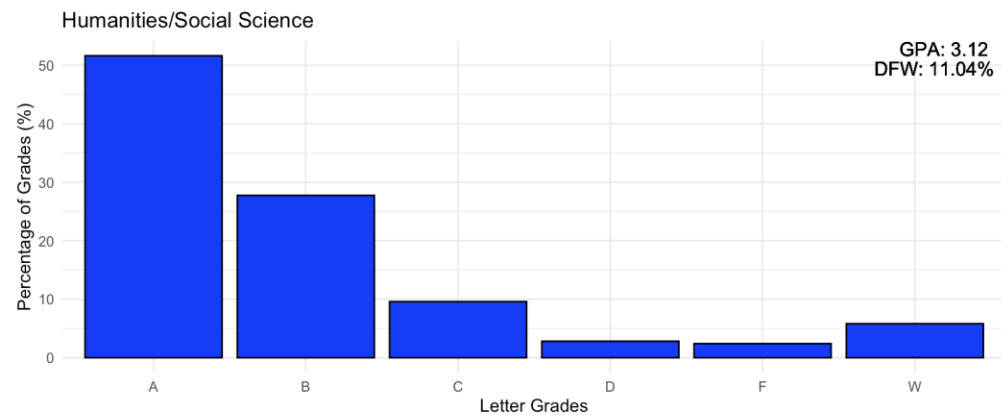
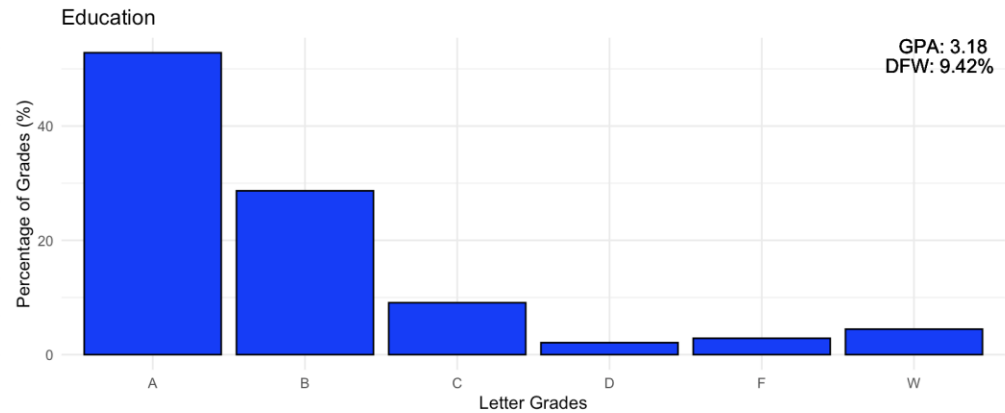
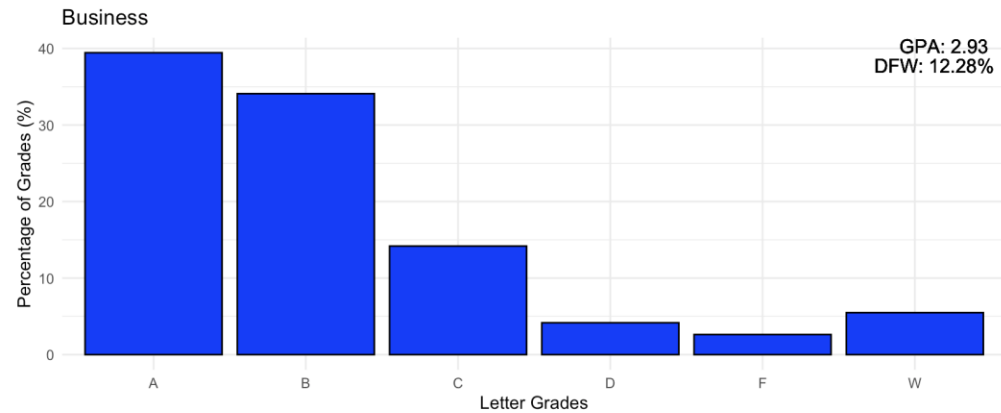
- What does the grade distribution look like for core requirements?
- By major grouping?
- By each individual core requirement?

- Can we see the “easiest” and “hardest” core requirement by GPA and DFW?

Letter Grades of Students in All Core Courses

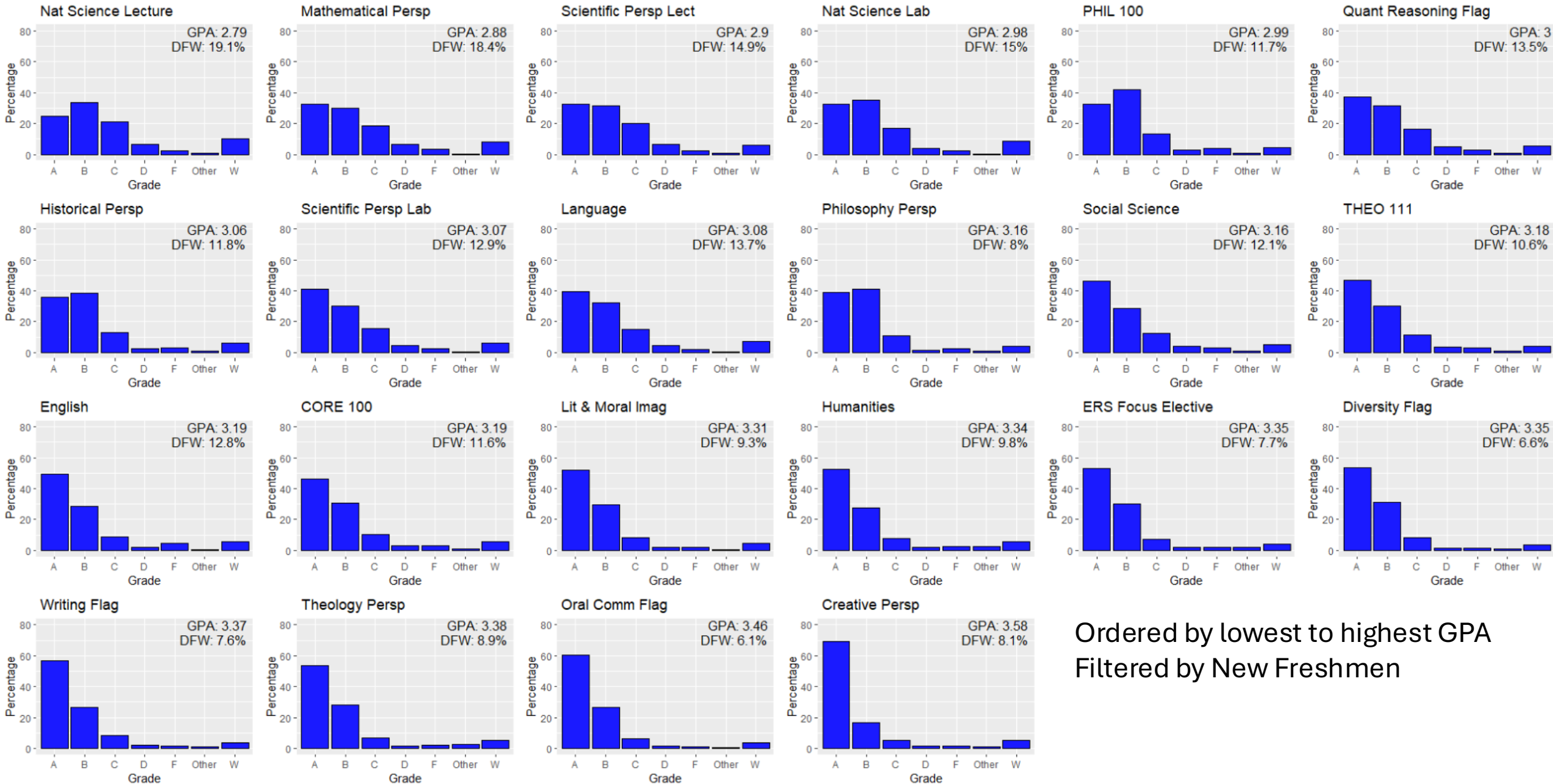


New Freshmen Letter Grades in Core by Major Categories



DFW: Ds, F, VF, & W.
Poor or inadequate
attempts at core
requirement
completion.

Letter Grades by Each Individual Core Requirement



Ordered by lowest to highest GPA
Filtered by New Freshmen

Core/Major Overlap

- How much of the core is fulfilled by each major?
- How many majors fulfill each requirement of the core?
- What exactly are we looking at?
 - 22 Core requirements
 - 62 Majors with available data

Method

Academic

What-If

What-If Analysis

☐ Use current curriculum ☒ In-progress classes ☒ Preregistered classes

Program

Catalog year *
2023-2024

Degree *
Bachelor of Science

Level *
Undergraduate

Areas of study

Major *

Minor

College

Concentration

Additional areas of study

Method

Actuarial Science

Applied Biology

Applied Chemistry

Applied Physics

Athletic Training

Biochemistry

Biological Sciences for Business

Biology

Biomedical Sciences

Biophysics

Chemical Science

Chemistry

Computer Science

Criminal Justice

☒ Preregistered classes

Degree *
Bachelor of Science

Level *
Undergraduate

Minor

College



Method

Areas of study

Major *
Actuarial Science



Minor



College



Concentration



Additional areas of study



Future classes

Subject

Number

ADD

RESET

PROCESS

Method

Major in Actuarial Science, BS









INCOMPLETE

Credits required: 59 Credits applied: 21 Catalog year: 2023-2024

Unmet conditions for this set of requirements: 59 credit hours are required. You currently have 21; you still need 38 more credit hours.
A minimum of 29 credit hours must be taken in residence.

	Course	Title	Grade	Credits	Term	Repeated
✓ Differential Calculus	MATH 180	Differential Calculus		3	2023 Fall	
	Satisfied by:					
✓ Integral Calculus	MATH 181	Integral Calculus		3	2023 Fall	
🕒 Sequences & Series	MATH 182	Sequences and Series		(3)	2024 Fall	
○ Multivariable Calculus	Still needed:	1 Class in MATH 220📋				
✓ Foundations of Higher Mathematics	MATH 225	Foundations Of Higher Math		3	2024 Spring	
○ Differential Equations	Still needed:	1 Class in MATH 230📋				
○ Linear Algebra	Still needed:	1 Class in MATH 240📋				
✓ Probability and Statistics	MATH 256	Intro to Probability & Stats		3	2024 Spring	

Method

<input type="radio"/>	Statistical Inference	Still needed:	1 Class in MATH 312 			
<input checked="" type="radio"/>	Computer Science I	CSCI 170	Computer Science I		3	2023 Fall
<input type="radio"/>	Microeconomic Principles	Still needed:	1 Class in ECON 200			
<input type="radio"/>	Macroeconomic Principles	Still needed:	1 Class in ECON 201 			
<input type="radio"/>	Introductory Financial Accounting	Still needed:	1 Class in ACCT 200			
<input type="radio"/>	Business Finance	Still needed:	1 Class in FINC 300 			
<input type="radio"/>	Investments	Still needed:	1 Class in FINC 365 			
<input type="radio"/>	Options and Futures Markets	Still needed:	1 Class in FINC 465 			
<input checked="" type="radio"/>	Intro to Actuarial Science OR Data Modeling	MATH 257	Data Modeling		(3)	2024 Fall
<input type="radio"/>	Actuarial Mathematics	Still needed:	1 Class in MACS 201 			

Method

Course Information



ECON 200 - 3 Credits - Microeconomic Principles

Principles governing the efficient allocation of the nation's scarce resources. Economic behavior of consumers, producers, and resource owners.

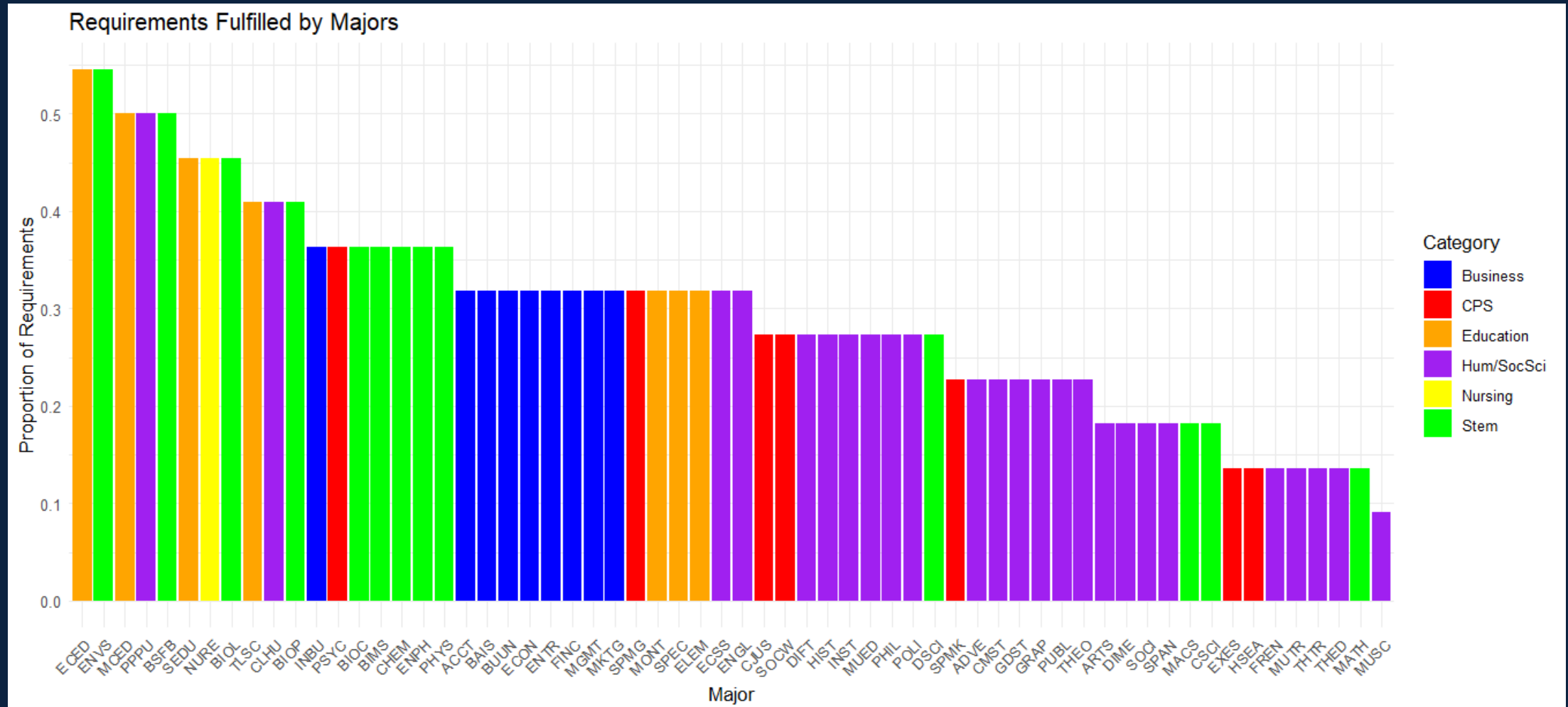
Attributes:

SOSC

Sections:

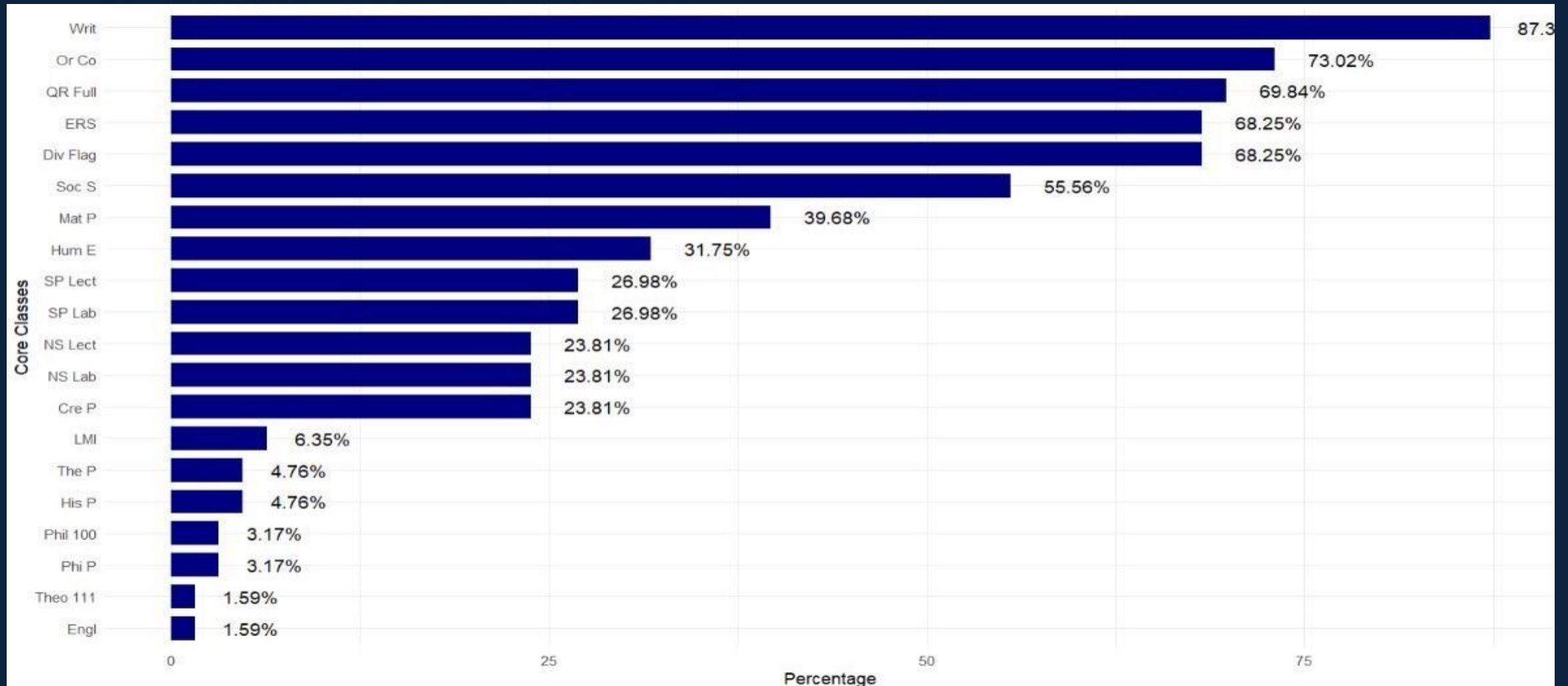
Term	CRN	Section	Seats open	Meeting times
2024 Fall	90106	01	0 (out of 24)	Tu Th 02:30pm - 03:45pm
2024 Fall	90100	02	0 (out of 24)	M W F 09:00am - 09:50am
2024 Fall	90103	03	0 (out of 24)	M W F 10:00am - 10:50am
2024 Fall	90101	04	0 (out of 24)	M W F 11:00am - 11:50am
2024 Fall	90104	05	0 (out of 24)	Tu Th 04:00pm - 05:15pm

How Much of the Core is Fulfilled by Each Major?



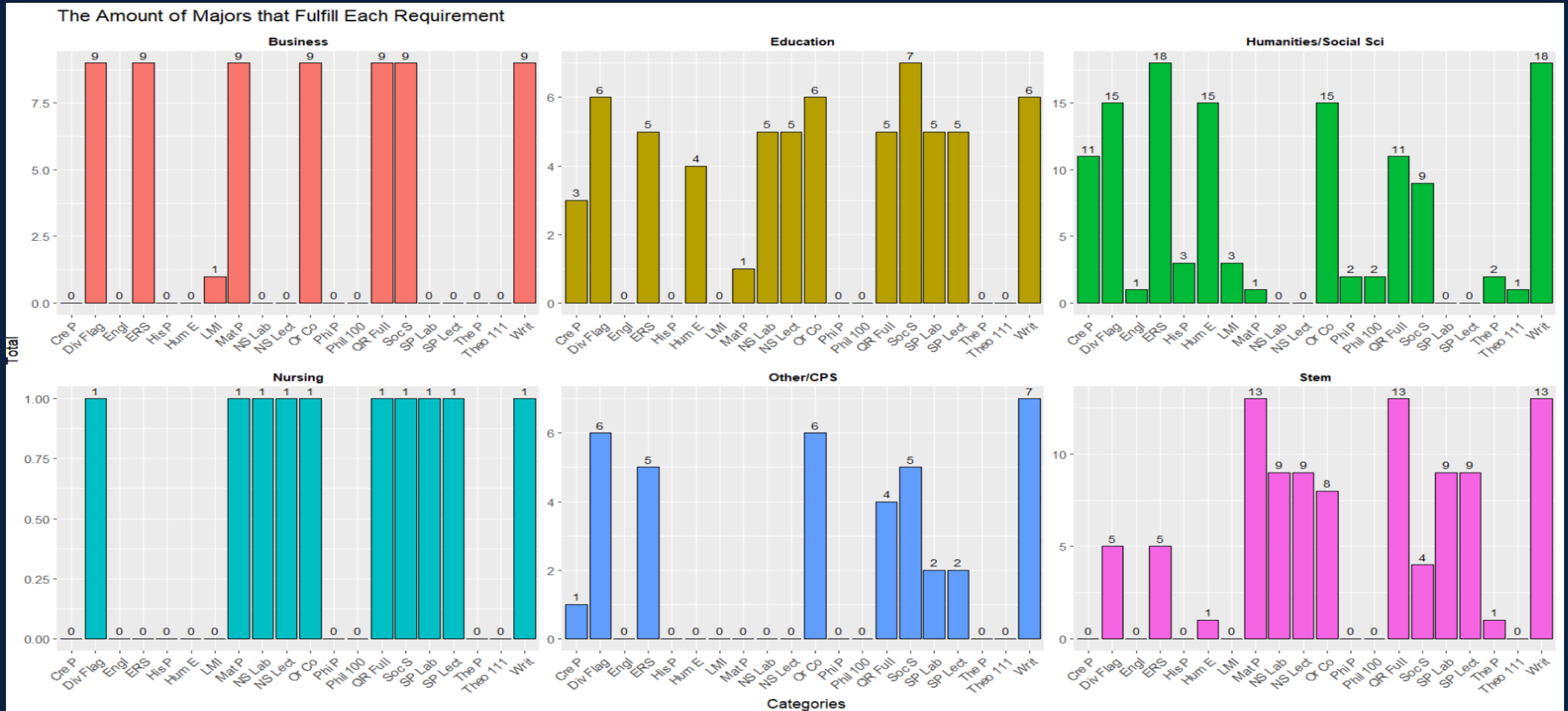
- Business majors are almost all the same.
- Natural science majors fulfill their 4 science requirements in their core.

Percent of Majors Fulfill Each Core Requirement



- There are more flags required within majors than electives

How Many Majors Fulfill Each Requirement?



- Most majors fulfill the Writing Flag.
- No majors fulfill the language requirement.

Conclusions

- Little variation in the way Business students experience the Core
- Overall, 3.37 GPA (7.6% DFW) in Xavier's Core Curriculum
- Xavier students take an average of 2.34 courses to fulfill Second Language requirement
- Large overlap of Nursing, Education majors and the Core
- Smaller overlap between Humanities, Social Sciences majors
- Changing majors has little impact on the core
- **HIRE US TO EXPLORE MORE!!!**