A Student-Driven Approach to Assessing Computer Engineering Students' Knowledge of their Degree Program

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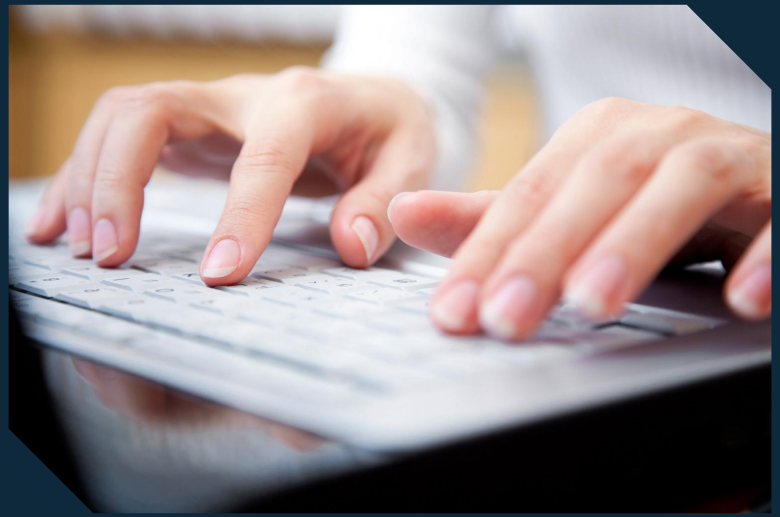
Purpose

- Investigate widespread advising approaches and build upon them by applying a learning management system—Blackboard.
- Survey computer engineering students to assess their understanding of their degree program.
- Evaluate common inconsistencies that could guide the allocation of valuable university resources.

Outline

1. Background
2. Our methodology
3. Results and application
4. Future works

1. Advising on the web



- Early 2000's.
- Posting vital degree and academic information.
- Helped students become more active in their degree planning and course selections.
- We go one step further as to assess how well this information is distributed and absorbed with students.

2. Self-assessment of class attendance study

- Students' self-assessment of their class attendance and completion of reading assignments.
- Test of compliance found that development education students' self-reports of their class attendance and completion of reading assignments was an unreliable means to assess actual compliance.
- Our evaluation compares students' responses to the current state of their academic progress illustrated in their DARS audit, our approach can identify inconsistencies in their responses and address them through in-person advising.

3. Blackboard

- Learning management system is used similarly, and uniquely, within universities across the country.
- Some activities that have been conducted through Blackboard include;
  - discussion boards for student communication;
  - being a hub for important course documents;
  - and increasing distance learning enrollment as a result of user-friendly interface.
- Student-driven input to Blackboard Communities has yet to be applied towards the allocation of departmental resources, such as advising.

Our process is easy

Inconsistencies

—a question in which the student answer and audit representation of that answer do not align.

Evaluation

- The FAU degree audit reporting system (DARS) serves as an accuracy measurement when compared against student answers.
- DARS produces a report reflecting academic progress towards completion of an undergraduate degree.
- A student is able to run an up-to-date DARS at any time.
- By comparison, we can catch the following errors:
  - (1) A student claims that they have met a requirement that they have not.
  - (2) A student has fulfilled a requirement that they are unaware of having fulfilled.

Summary

Population:

Nearly 40% of computer engineering students.

Hypothesis:

That most (70%) of computer engineering majors in this study have a firm understanding of their degree requirements.

Survey:

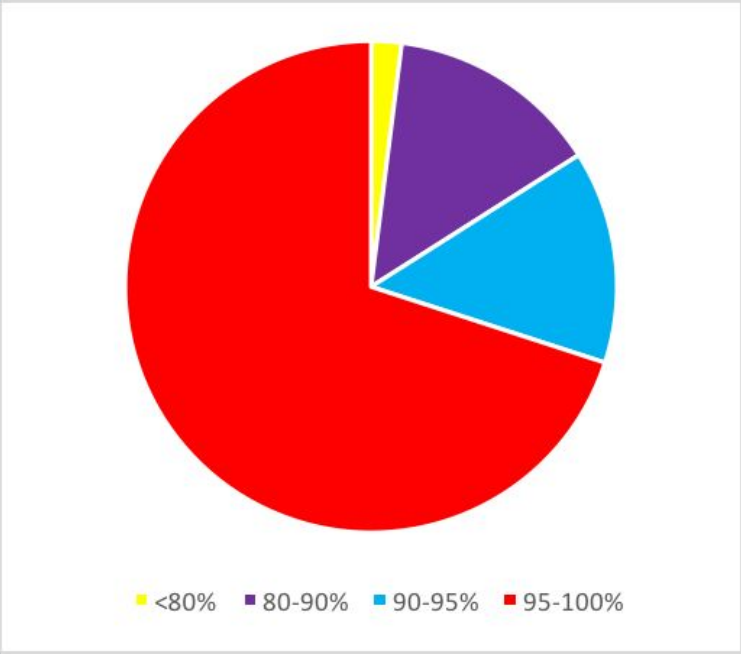
29 true/false questions tests for the meeting of IFP, foreign language, core and elective requirements.

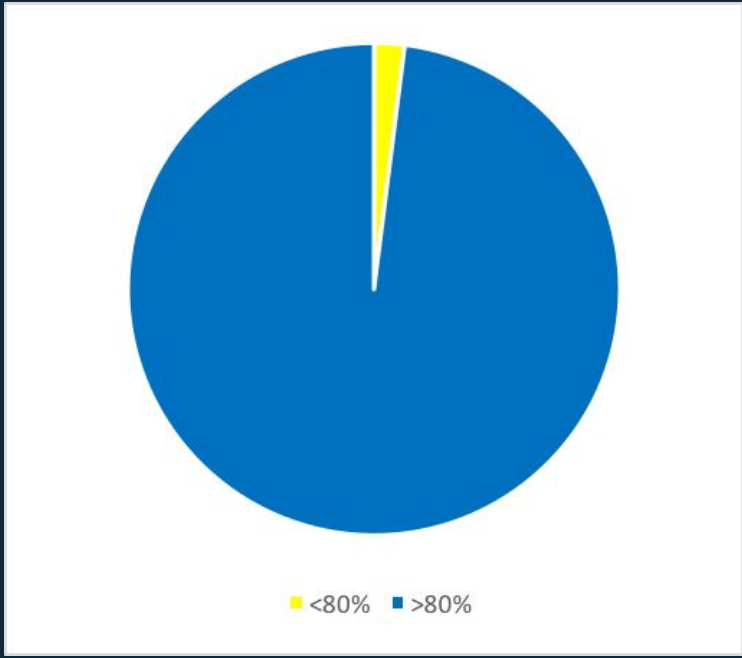
2

So how well do students know their degree program?

As anticipated, the average overall and core scores were both about **95%** in our test population.

Over **98%** of students who took part in this study scored an overall score greater than **80%**—our threshold for students having a firm understanding of their degree program.


<80%
80-90%
90-95%
95-100%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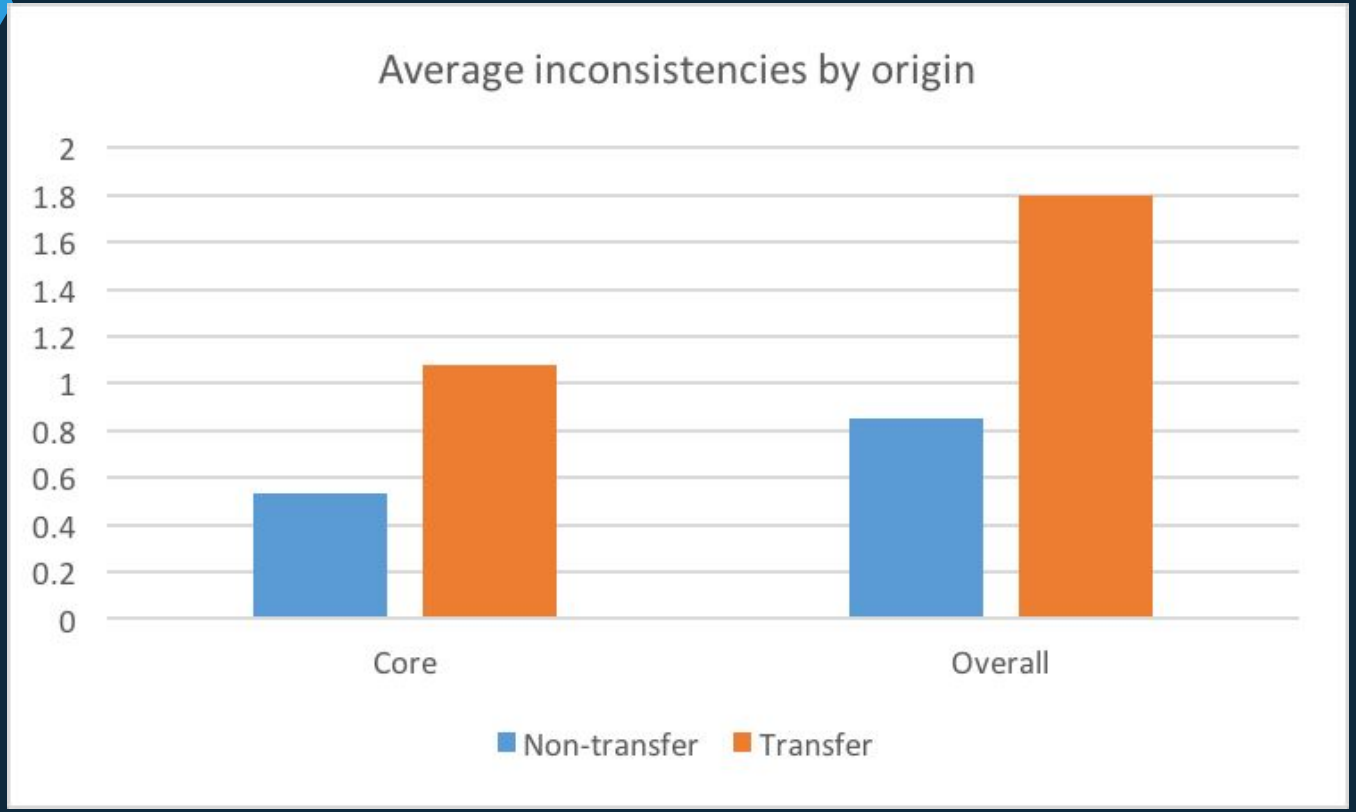
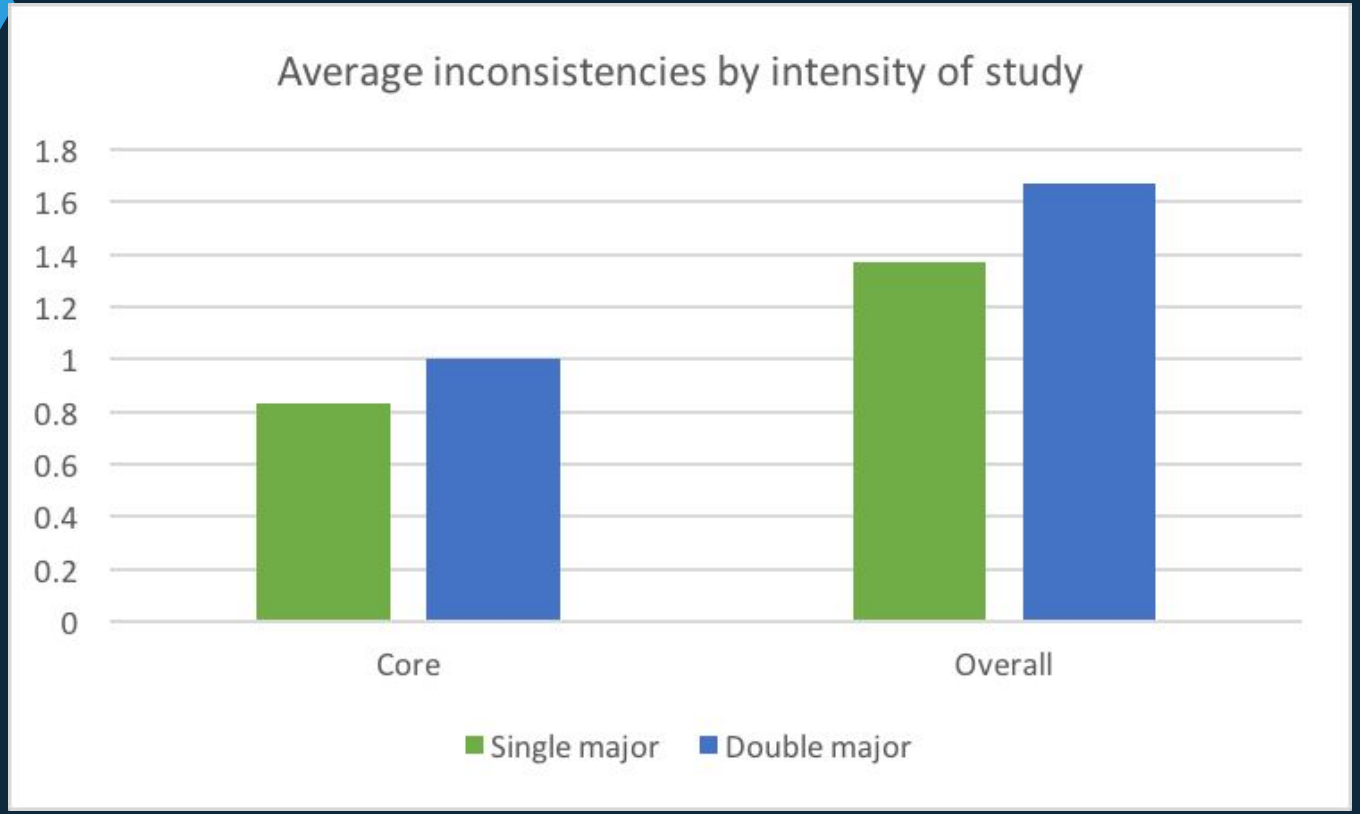
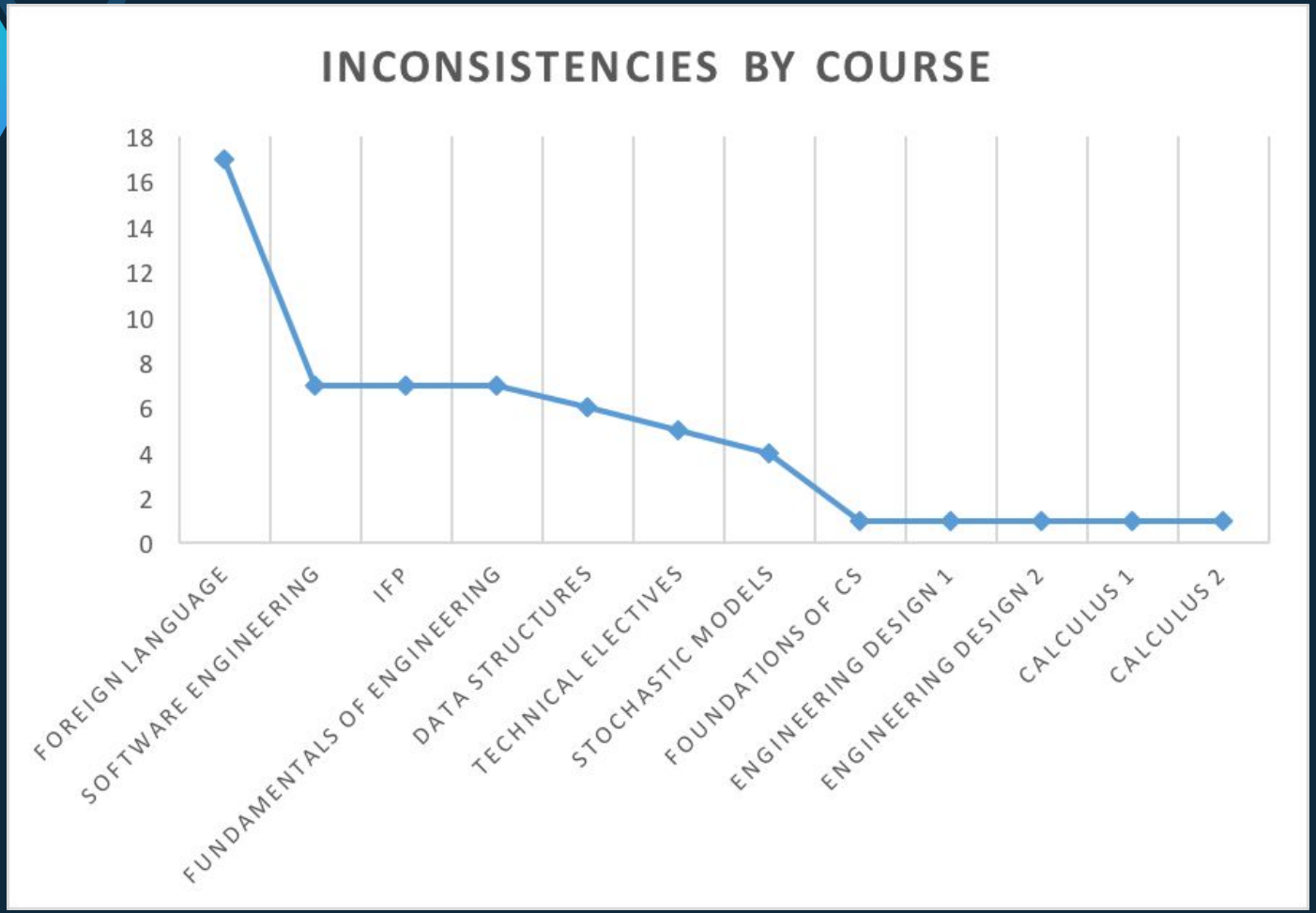
Great...

But what does this all mean? It's reassuring for advising services to know their students are well informed, but well informed doesn't mean perfect.


Average inconsistencies by origin
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Core
Overall
Non-transfer
Transfer

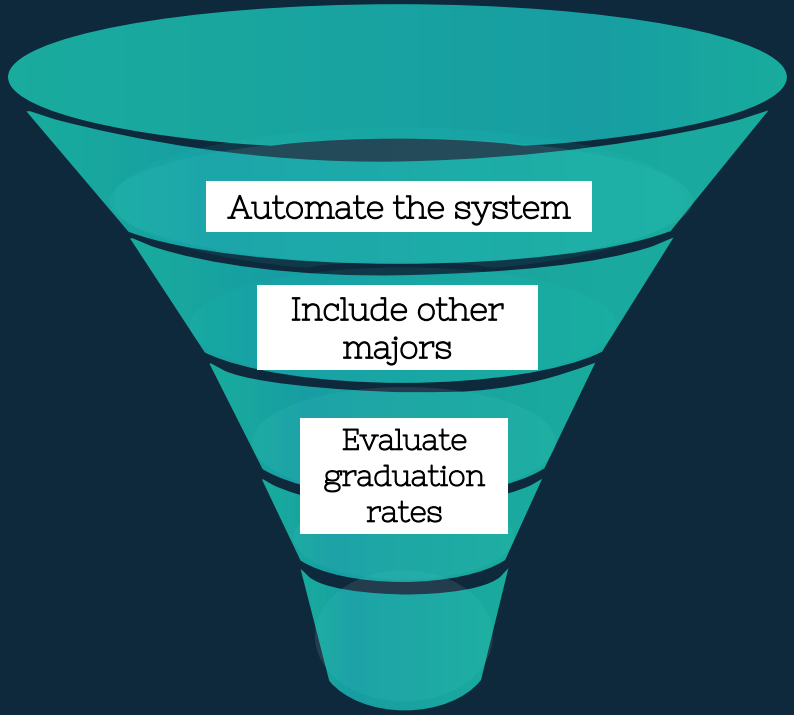

Average inconsistencies by intensity of study
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Core
Overall
Single major
Double major


INCONSISTENCIES BY COURSE
18
16
14
12
10
8
6
4
2
0
FOREIGN LANGUAGE
SOFTWARE ENGINEERING
IFP
FUNDAMENTALS OF ENGINEERING
DATA STRUCTURES
TECHNICAL ELECTIVES
STOCHASTIC MODELS
FOUNDATIONS OF CS
ENGINEERING DESIGN 1
ENGINEERING DESIGN 2
CALCULUS 1
CALCULUS 2

Conclusion and Application

- **Students know their degree program.**
- Students' knowledge is an inexpensive means of assessing their progress in their degree program.
- By distributing a survey like this on a semester basis, inconsistencies can be noted and addressed before they have potential to setback a student's projected graduation.
- Allot courses to be offered based on student input.
- Estimate the cost of completing one's degree program.

Future Works



References

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Thank you!

Any questions?