CS Junior Lunch

Agenda

- Pizza! 😊
- Curriculum Overview
- CS System Electives
- CS Algorithm Electives
- CS Electives & Research Opportunities
- Being a TA
- CS-specific Career Considerations
- Preparing for your Job Search
- Security Clearance
- Virginia Tech 4-and-1 program

SPRING ENROLLMENT

BEGINS NOV. 7TH

CS Curriculum

CS 101
Intro to CS

Algebra: MATH 155/156

CS 149
Intro to Prog

CS 159
Adv Prog

CS 227
Discrete Str 1

Full Admit

Prerequisite: CS 227

Calc: MATH 231/235

CS 240
Data Struct

CS 261
Systems 1

CS 345
Software Eng

CS 343
App Dev

App Dev Electives

CS 347
Web Info Sys

CS 447
Inter Design

CS 374
Databases

Prereq: 240 or 343

Prereq: CS 240

CS 327
Discrete Str 2

Prereq: CS 240 *and* CS 261

CS 361
Systems 2

CS 430
Prog Lang

Stats: MATH 220/229/318

Algorithm elective: pick one

CS 412*
Applied Alg

CS 452*
Algorithms

Systems elective: pick at least one

CS 432
Compilers

CS 450
OS

CS 455
Comp Network

CS 456
Architecture

CS 470
Parallel/Distrib

Info Sec Sequence

CS 457*
Info Sec

CS 458
Cyber Defense

CS 482
Topics

Robotics Electives

CS 354*
Robotics

CS 444*
AI

CS 445*
ML

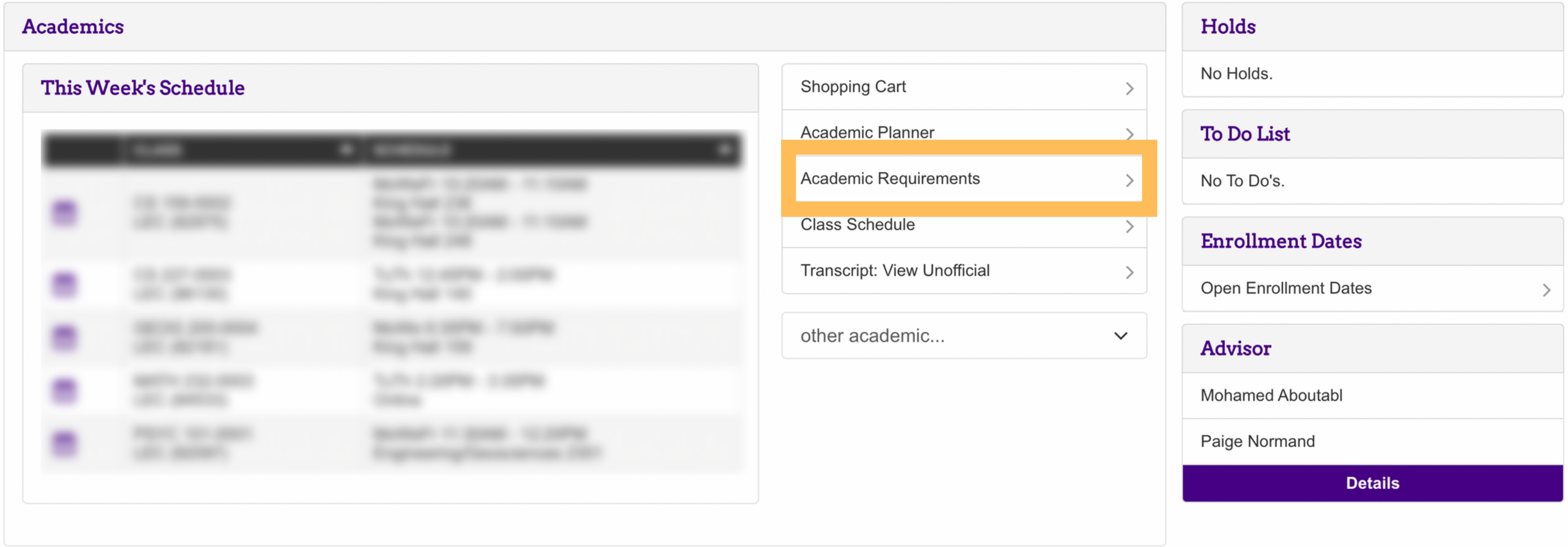
Legend

- Required Core
- Required Elec
- CS Elec. Req 3
- * requires Stats

Note: This is not an exhaustive list of CS electives or all prerequisites; it is a visualization tool for progression through the CS curriculum.

View on CS Wiki:

MyMadison ➡ Student Center



MyMadison ➡ Student Center ➡ Academic Requirements

UG Cumulative Hours Earned:	84.000
UG Cumulative GPA:	3.178

GRADUATION REQUIREMENTS	
University Requirements	Not Satisfied
- Cumulative Credits	Not Satisfied
- Cumulative GPA	Satisfied
- 50% of Credits from a Four Year Institution	Satisfied
- 25% of Credits from JMU	Satisfied
- General Education Program (Catalog Year 2019-2	Satisfied
- General Education: Cluster One	Satisfied
- General Education: Cluster Two	Satisfied
- General Education: Cluster Three	Satisfied
- General Education: Cluster Four	Satisfied
- General Education: Cluster Five	Satisfied
Bachelor of Science Degree Requirements	Satisfied
Computer Science - BS (Catalog Year 2020-21)	Not Satisfied
- Fully Admitted Computer Science	Satisfied
- CS Major Requirements	Not Satisfied
- CS Major Credit Hours / GPA	Not Satisfied

120 Credits to Graduate

MyMadison ➡ Student Center ➡ Academic Requirements

Algorithm Elective

300/400-Level Electives

Not Satisfied: Computer Science electives above 300, with at least two courses above CS 345. ~ (9 credits) (RQ 2323, CL 2065, 2066)

- Units: 9.00 required, 6.00 taken, 3.00 needed

The following courses were used to satisfy this requirement:

COURSE	DESCRIPTION	UNITS	WHEN	GRADE	STATUS
CS 347	WEB DEVELOPMENT	3.00	Spring Semester 2022	B	☑
CS 354	INTRO AUTONOMOUS ROBOTS	3.00	Fall Semester 2022		↻

MyMadison ➡ Student Center ➡ Academic Requirements

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CS 347	WEB DEVELOPMENT	3.00	Spring Semester 2022	B	☑
CS 354	INTRO AUTONOMOUS ROBOTS	3.00	Fall Semester 2022		↻

MyMadison ➡ Student Center ➡ Academic Requirements

22-23 Catalog: "Computer Science electives above CS 300, with at least two above CS 332”

Algorithm Elective

300/400-Level Electives

Not Satisfied: Computer Science electives above 300, with at least two courses above CS 345. ~ (9 credits) (RQ 2323, CL 2065, 2066)

- Units: 9.00 required, 6.00 taken, 3.00 needed

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COURSE	DESCRIPTION	UNITS	WHEN	GRADE	STATUS
CS 347	WEB DEVELOPMENT	3.00	Spring Semester 2022	B	
CS 354	INTRO AUTONOMOUS ROBOTS	3.00	Fall Semester 2022		

MyMadison ➡ Student Center ➡ Academic Requirements

If you want to take CS 330 AND CS 343 to count for CS Electives, change your Catalog Year.

Email Dr. Buchholz your eID, current Catalog Year, and Desired Catalog Year

MyMadison ➡ Student Center ➡ Academic Requirements

Computer Science - BS (Catalog Year 2020-21)

Not Satisfied: Major in Computer Science, Bachelor of Science Degree (Plan 0000003100) (RG 1446)

- Fully Admitted Computer Science

Satisfied: Fully Admitted to the Computer Science Major ~ All students interested in majoring in CS must apply for a limited number of spaces. (RQ 3092)

Fully Admitted to the Computer Science Major

- CS Major Requirements

Not Satisfied: MAJOR REQUIREMENTS (RQ 2323)

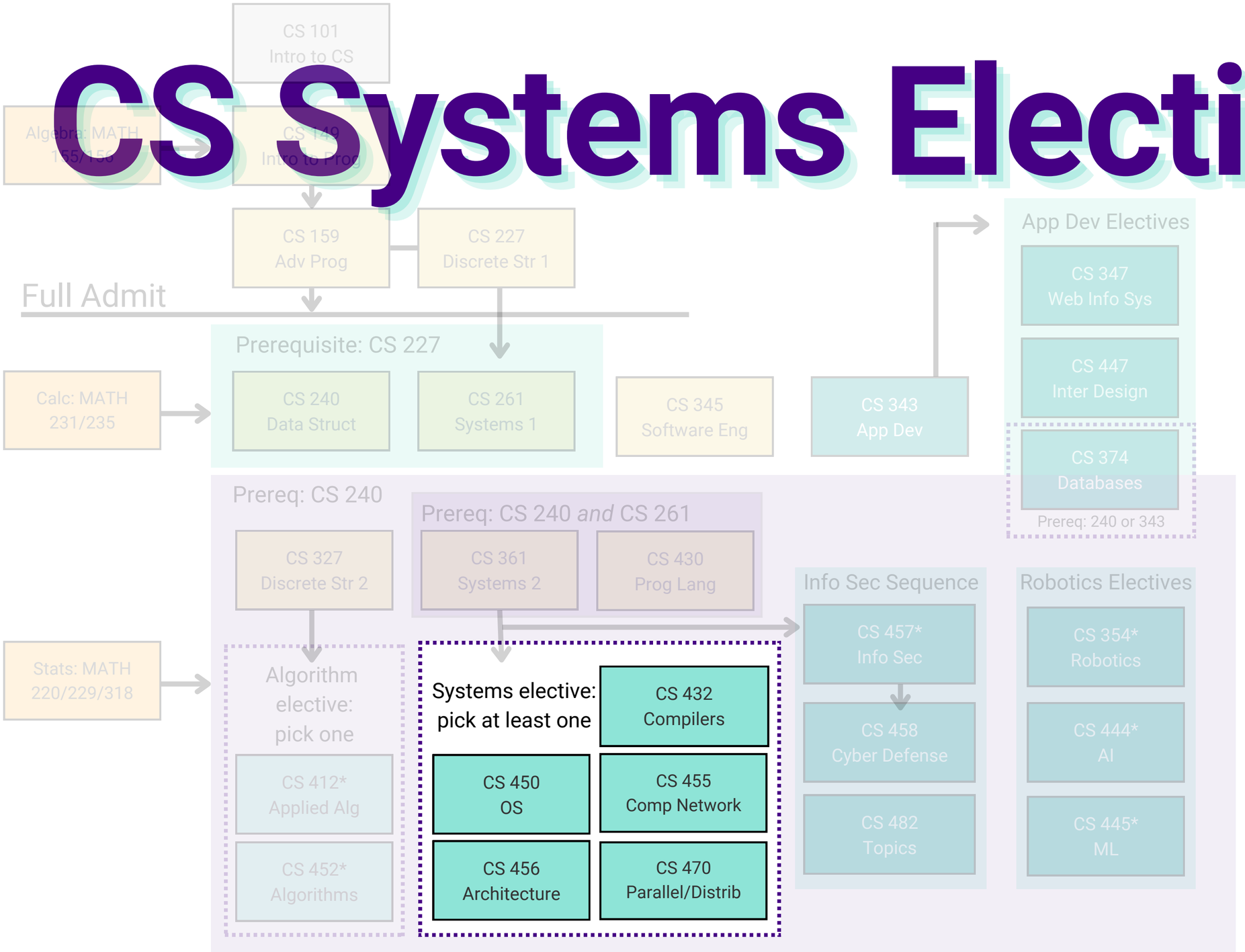
Programming Fundamentals

Advanced Programming

Core Requirements

Discrete Mathematics/Structures

CS Systems Electives



JMU Department of Computer Science

Advanced Systems Electives

CS 261

CS 432 - Compilers *(req. CS 327)*

CS 456 - CPU Architecture

CS 361

CS 455 - Adv. Networking

CS 470 - Parallel & Distributed

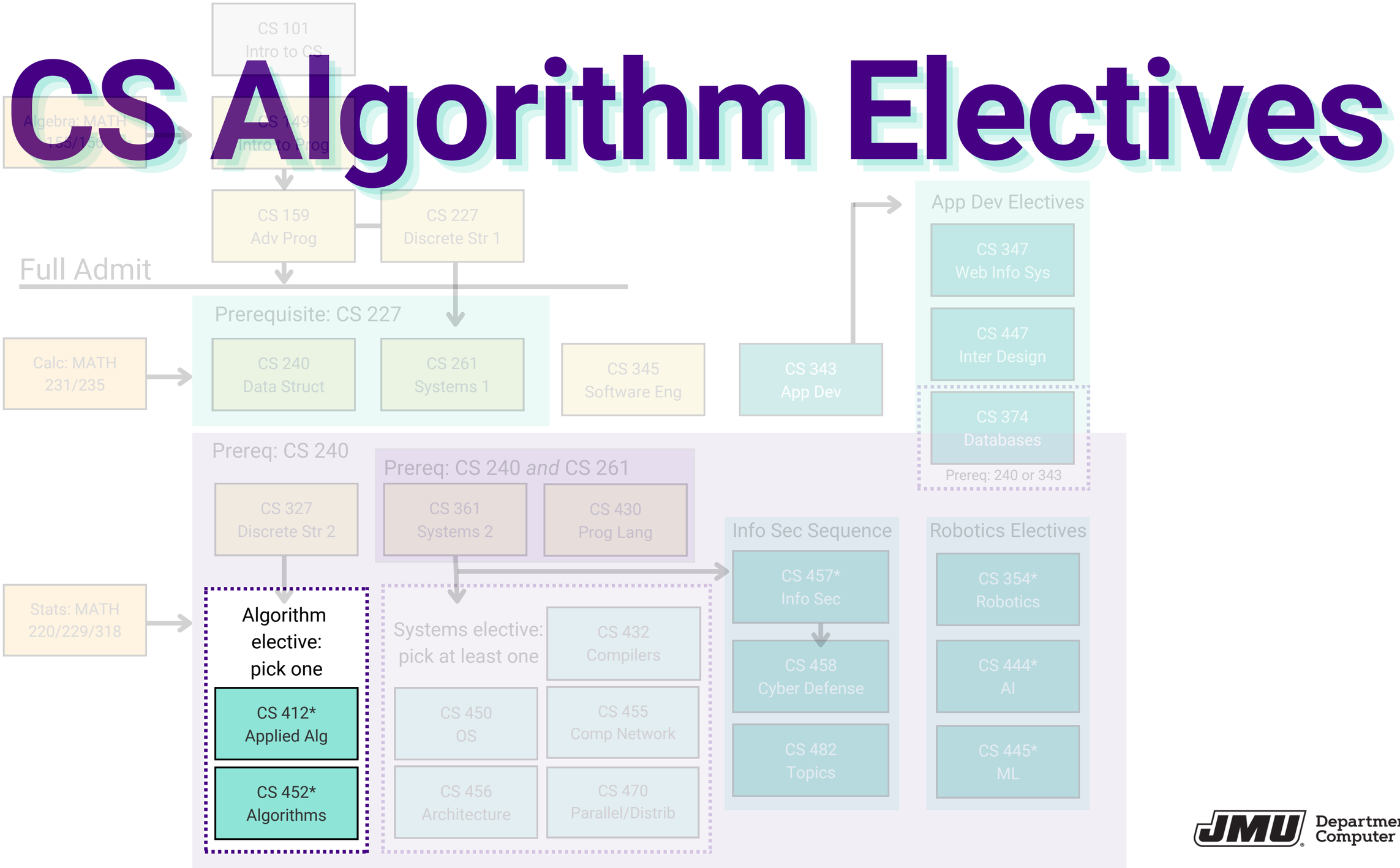
CS 450 - Operating Systems

UNIX USERS GROUP

Wednesdays 6:30-7:30pm
in King Hall 236

JMU Department of Computer Science

CS Algorithm Electives



JMU Department of Computer Science

COMPETITIVE PROGRAMMING

Mondays 8pm-9pm
in King Hall 236

JMU Department of Computer Science

CS Electives

DR. SPRAGUE

DR. MOLLOY

DR. RICHARDS

DR. KIRKPAMS

DR. STEWART

DR. TJADEN

DR. JOHNSON

CS Electives

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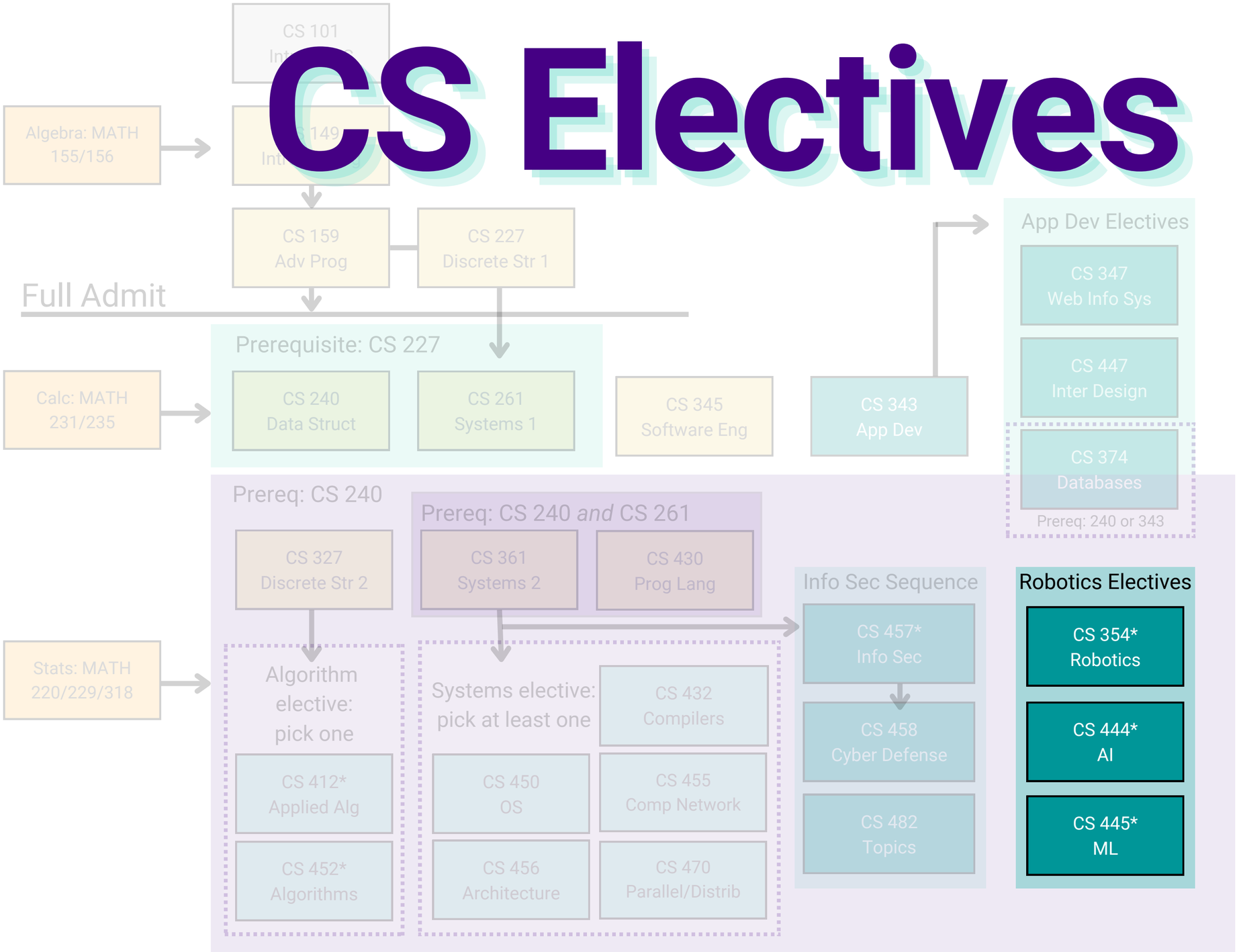

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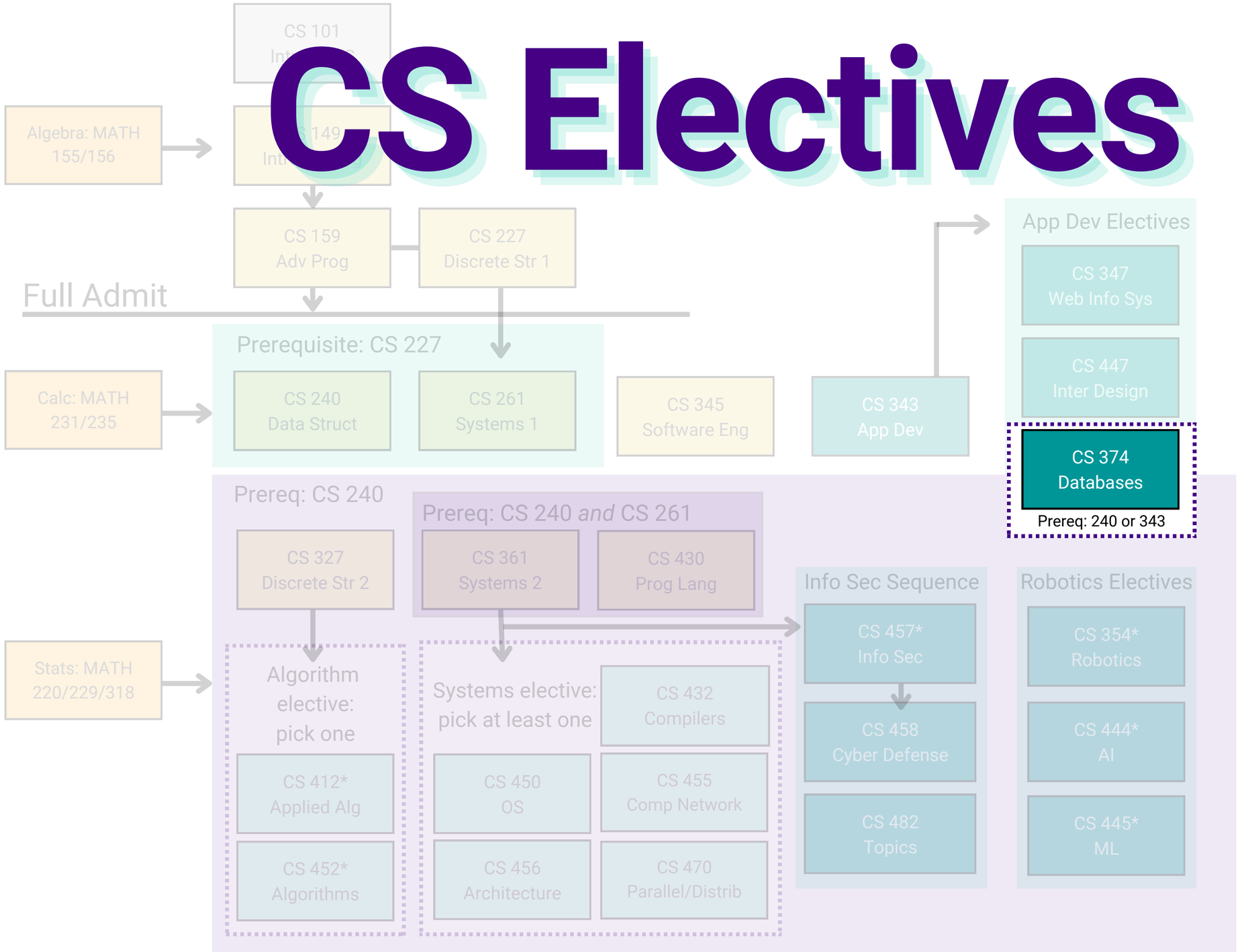

CS 374

- Databases systems
  - Involve very specific techniques to address data accuracy and availability
  - Solve real world problems
  - Great complement to web-related courses – databases are the “backend” of development for dynamic websites
  - Adds a highly marketable skill to your resume

CS Electives

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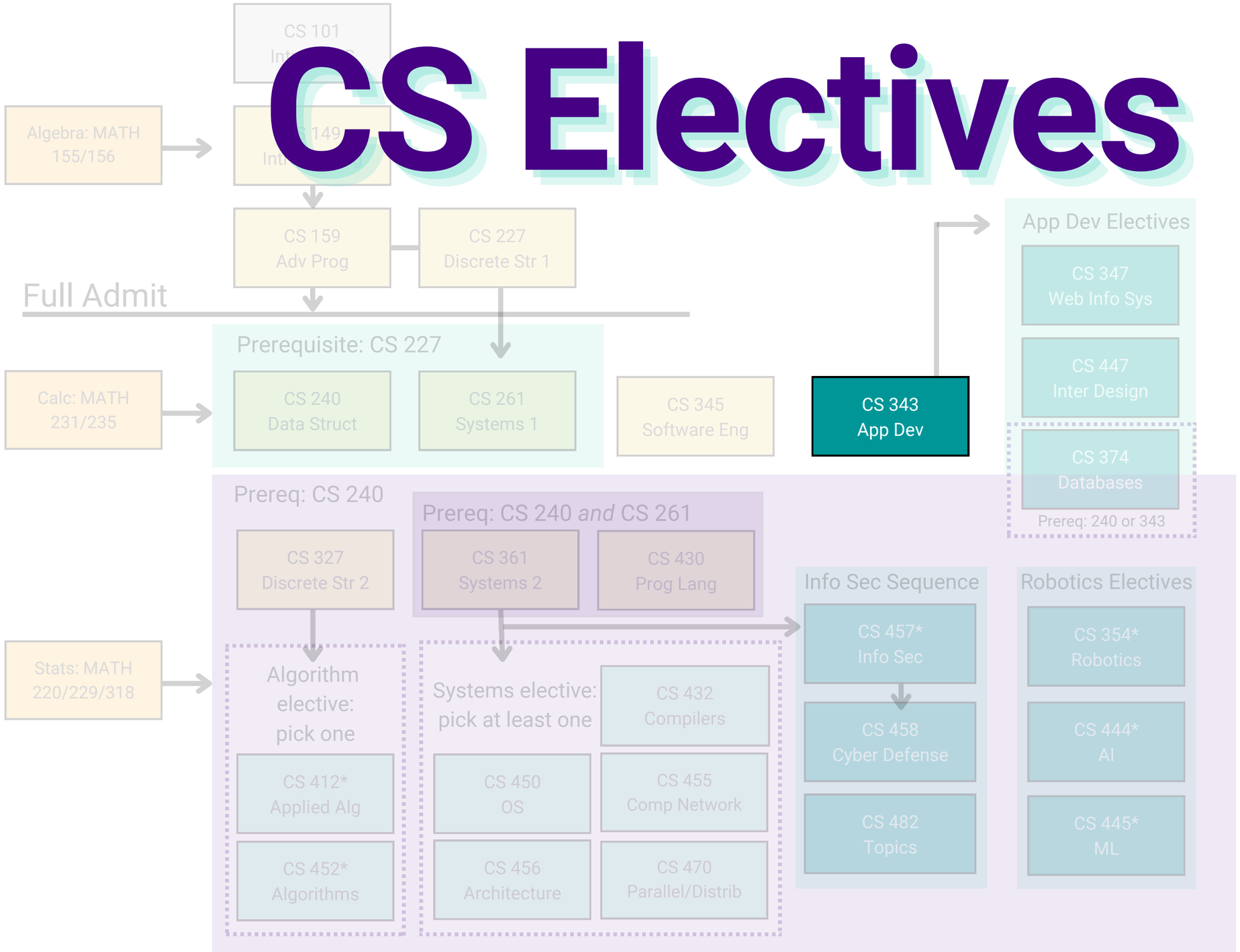

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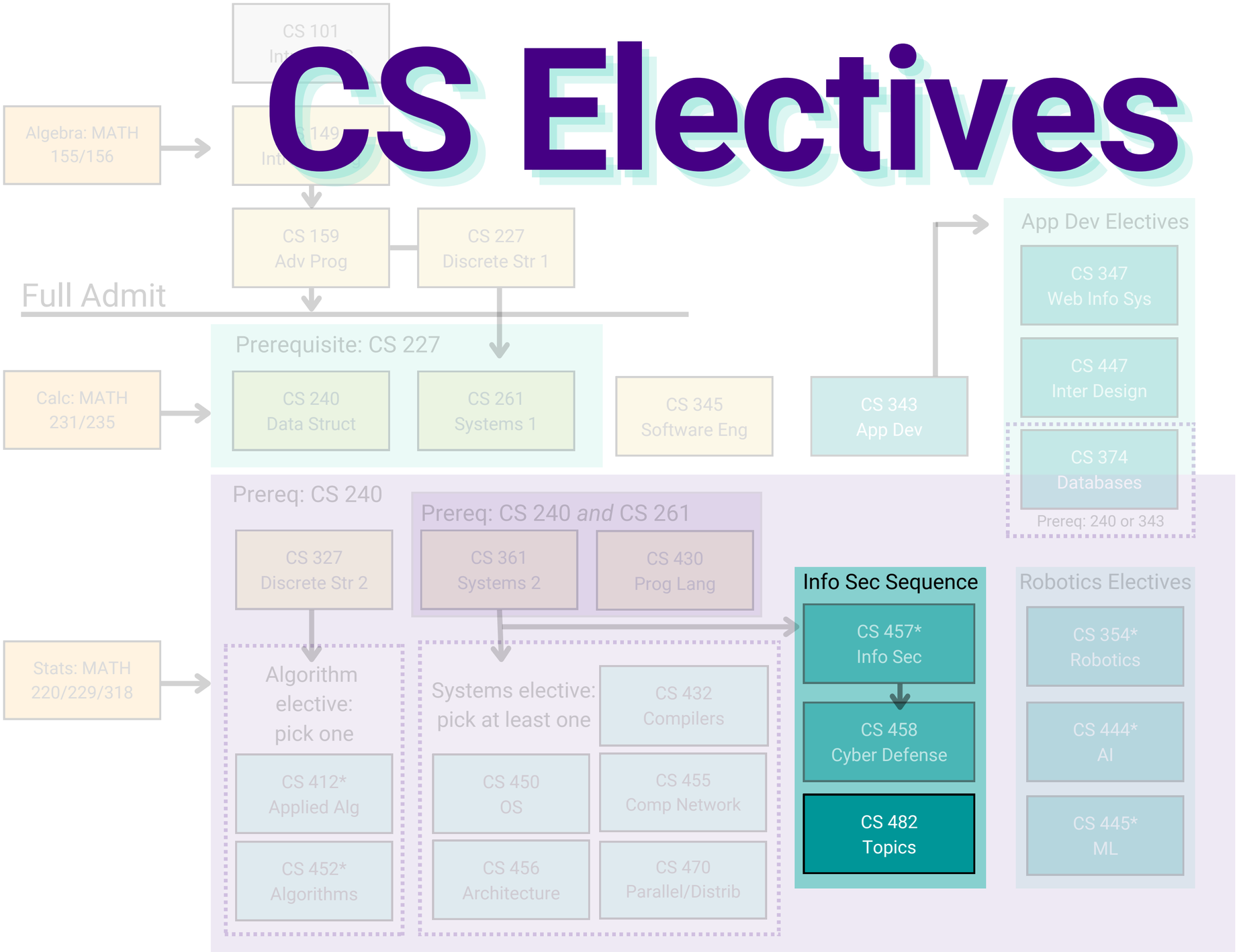

CS Electives

DR. SPRAGUE

DR. MOLLOY

DR. RICHARDS

DR. KIRKPAMS

DR. STEWART

DR. TJADEN

DR. JOHNSON

Learning CS with Brain and Body

- collaborate with Drs. Isaac Wang and Chris Johnson
- use Unity and VR to facilitate embodied interaction in CS learning exercises like code tracing and memory manipulation
- prerequisites: CS 240, empathy

Madeup: a 3D Modeling Language

- collaborate with Drs. Laura Taalman (math) and Chris Johnson
- write a programming language for developing 3D models
- use Rust, Web Assembly, and WebGL
- prerequisites: CS 240, webdev experience

Become a TA


Issue
Reading data from an input
How to change color values in image
Connecting VSCode to stu
Find
ArrayList O(n)
Hashmap O(?)
Contigvous data
Singly Linked Data
Write your Name on the board if you need help!
INPUT
OUTPUT

Career Considerations

Preparing for the Job Search

1. **Do you know what you're looking for?**
    1. Self-Assessment (Skills, Values, Interests)
2. **Research & Explore Options**
    1. Handshake.com
    2. Gamedeveloper.com
    3. Aftercollege.com
    4. Dice.com
3. **Ask Questions**
    1. Informational Interviews
    2. Networking
4. **Prepare Your Materials**
    1. Resume, Cover Letter, LinkedIn, Interview

How can the UCC Help me?

- 1:1 Appointments
    - Resume
    - Cover Letter
    - Job Search
    - Internship Search
    - Career Exploration
    - Graduate School Prep
    - Networking/Negotiating
- Drop-in Hours
    - EnGeo 0302 – Tues. 10-12pm
- Handshake/LinkedIn Support
- On Campus Interviews
- Clothing Closet

JMU University Career Center

Security Clearances

Collecting Information

- Everywhere that you have lived from either 18 and on, or in the last seven years
- Foreign travels with dates
- All employment with starting and ending dates
- Disclose any criminal conduct, drug involvement, or financial issues
    - you can explain, if it helps your case

Security Clearances

Contacts

- Need a lot of people to prove that you are a true US citizen
- Primary contacts (e.g. close family friends) must personally know you well and be able to vouch for you
- People can't fulfill two categories
- Meet your neighbors
- Know any foreign contacts
    - anyone who has a foriegn passport even if they live in US

Security Clearances

Outside of the E-QIP

- Get fingerprinted
  - do ASAP, it takes a up to two weeks for them to process
- Interviews & polygraph
  - be honest, a lie will result in immediate disqualification
  - don’t lie on your friend's behalf if they are doing a clearance too, they’ll also be polygraphed

Double count JMU+VT

Anyone with 3.3 GPA can start the Masters of Engineering with one or more of these courses.

JMU Course	*VT Equivalent*
CS 432 Compiler Construction	CS 4304 Compiler Design and Implementation
CS 452 Design and Analysis of Algorithms	CS 4104 Data and Algorithm Analysis
CS 470 Parallel and Distributed Computing	CS 4234 Parallel Computation
CS 444 Artificial Intelligence	CS 4XXX Generic Elective
CS 445 Machine Learning	CS 4824 Machine Learning
CS 457 Information Security	CS 4264 Principles of Computer Security
CS 458 CyberDefense	CS 4XXX Generic Elective
CS 488 Computer Applications Application	CS 4204 Computer Graphics
CS 5XX courses are forthcoming	CS 5XXX courses approved upon review