New Courses in Spring 2020

New Courses offered by CDS department:

**DSCI 342 - Intro Data Science Systems.**
Required for DS. For CS, can be counted towards Area 3: Computer Systems, Networks and Security, and group 1 tech elective.

**EECS 297/397 - Special Topics: Systems Programming, 3 credit hours**
For CS, can be counted towards Area 3: Computer Systems, Networks and Security and Area 1: Software Engineering depth, and group 1 tech elective. For DS, can be used to substitute a required course (e.g., DSCI 344, or DSCI 345).

**EECS297/397- Special Topics: C/C++ Programming, 1 credit hour**
For CS, can be counted towards group 1 tech elective.

**EECS 600 - Special Topics: CyberAI: AI in Cybersecurity**
For CS, can be counted towards Area 4: Databases and Data Mining and Area 3: Computer Systems, Networks and Security, and group 1 tech elective.

**EECS 337 - Compiler Design.**
Not a new course, but has not been offered for several years.

Relevant Courses offered by other department:

**Math 444 MATHEMATICS OF DATA MINING**
For CS, can be counted towards Area 4: Database and Data Mining depth, and a group 1 technical elective.

**MATH 382 / MATH 482 / STAT 382 / STAT 482 High Dimensional Probability with Applications in Data**
For CS, it can be counted toward Area 4: Database and Data Mining and Area 6: Artificial Intelligence and a group 1 technical elective. For DSCI, it can be counted as an elective.
New Courses in Fall 2019

DSCI 234 - Structured and Unstructured Data. Required for DS. For CS, can be counted towards Area 4: Databases and Data Mining, and group 1 tech elective.

DSCI 343 - Introduction to Data Analysis. Required for DS. For CS, can be counted towards Area 4: Databases and Data Mining and Area 5: Bioinformatics, and group 1 tech elective.

EECS 297/397 - Special Topics: Introduction to Python. Can be counted towards group 1 tech elective.

EECS 297/397 - Special Topics: AI in Healthcare. Can be counted towards group 1 tech elective.

EECS 600 - Deep Learning. Can be used to satisfy Area 4: Databases and Data Mining and Area 6: Artificial Intelligence depths, and group 1 tech elective.

EECS 349 - Computer Security. Is cross-listed with EECS444. Can be used to satisfy Area 3: Computer Systems, Networks and Security depth.

FAQ for Fall 2019

Note: the answers are based on the current CS curriculum requirements and are provided here for your convenience. Please refer to General Bulletin or discuss with your advisor for questions not covered here.

Q: What is SAGES Departmental seminar for CS?
A: ENGR398 & ENGL 398. This is one course with 2 sessions with different course numbers. BS students need to register both. BA students may register for these two classes or may use the department seminar from another major.

Q: What is SAGES capstone for CS?
A: EECS395. It is senior project that is required for both BS and BA major. It also serves as the capstone for SAGES. All BA and BS students must take EECS395.

Q: Then is EECS393 also SAGES capstone?
A: No. It was years ago, but is not the capstone anymore.

Q: How many Humanities & Social Sciences courses do I need to take?
A: For BS students, this is a School of Engineering education requirement, and you need to take 12 credits worth of 3- and 4-credit hour HM/SS courses.

Q: I want to take a course but I have not met the prerequisite yet, can I still take it?
A: Generally you are not allowed. Our program's accreditation depends on students taking the appropriate prerequisites for a course. Approval to waive prerequisites should only be given in exceptional circumstances.

Q: I want to take a course but it is already closed. What should I do?
A: Register for the class in SIS and request a "closed class override". This will help us know how many students still need the class. To ensure quality of course delivery and to allow each student to have enough opportunities to interact with professors, our courses have a hard cap. For upper level courses, priorities are given to 1) seniors and 2) CS students. But we have been working on many new courses and options.

Q: I want to take some courses as my tech electives, but they are not on the list. Can I still do that?
A: You need prior approval from your advisor for that.

Q: What are other courses that can be counted towards depth areas and/or tech electives, in addition to the ones that specified in the General Bulletin?
A: Please see the course list below (not all of them are offered in the fall). In order for these courses to be counted correctly in SIS (i.e., before they are approved permanently), you need to submit a course substitution form and ask your advisor to sign it. As usual, any courses listed for breadth/depth can be used for tech elective group one if you already have enough courses for breadth/depth requirements. Any courses listed for breadth/depth/tech elective group one can be used for tech elective group two after you have enough courses to satisfy those requirements.

**The following courses can be counted towards the Software Engineering depth area:**
EECS 349 - Computer Security
EECS 438 - High Performance Computing
EECS 448 - Smart Phone Security

**The following courses can be counted towards the Databases and Data Mining depth area:**
DSCI 234 - Structured and Unstructured Data.
DSCI 343 - Introduction to Data Analysis
EECS 600 - Deep Learning

**The following courses can be counted towards the Bioinformatics depth area:**
DSCI - 343  Introduction to Data Analysis
The following courses can be counted towards the Algorithms and Theory depth area:
PHIL 306 - Mathematical Logic and Model Theory
EECS 394 - Information Theory
EECS 455 - Applied Graph Theory

The following courses can be counted towards the Computer Systems, Networks and Security depth area:
EECS 349 - Computer Security
EECS 359 - Data Privacy
EECS 428 - Computer Communications Networks II
EECS 438 - High Performance Computing
EECS 448 - Smart Phone Security

The following courses can be counted towards the Artificial Intelligence depth area:
EECS 394 - Information Theory
EECS 600 - Deep Learning

The following courses can be counted towards tech elective group 1:
EECS 297/397 Special Topics: Introduction to Python
EECS 297/397 Special Topics: AI in Healthcare
EECS 303 - Embedded Systems Design and Laboratory
EECS 377 - Introduction to Connected Devices
EECS 478 - Computational Neuroscience
MATH 330 - Introduction to Scientific Computing
MATH 431 - Introduction to Numerical Analysis I

The following courses can be counted towards tech elective group 2:
EECS 346 - Engineering Optimization
EECS 350 - Operations and Systems Design
EECS 414 - Wireless Communications
EECS 416 - Convex Optimization for Engineering
MATH 327 - Convexity and Optimization
MATH 439 - Bayesian Scientific Computing
MATH 475 - Mathematics of Imaging in Industry and Medicine
MATH 497 - Stochastic Models: Time Series and Markov Chains