

Welcome to
Course VI !!!


The New EECS Curriculum

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Outline

- Goals and structure of new curriculum
- Transition plans for students in Class of 2010 who wish to major under the new curriculum ("how will 6.001 count?")
- Brief descriptions of new subjects
- Note:
 - This will not be the last time you hear about the new curriculum!
 - Do come forward with questions, concerns, uncertainties
 - Some patience and flexibility will be needed during the transition
 - The current curriculum still constitutes a fine curriculum! (and we will be presenting it for re-accreditation this fall), so stick with it if you'd like -- some opportunities for substitutions outlined later. This curriculum is adequately described in the current Bulletin.

The new curriculum

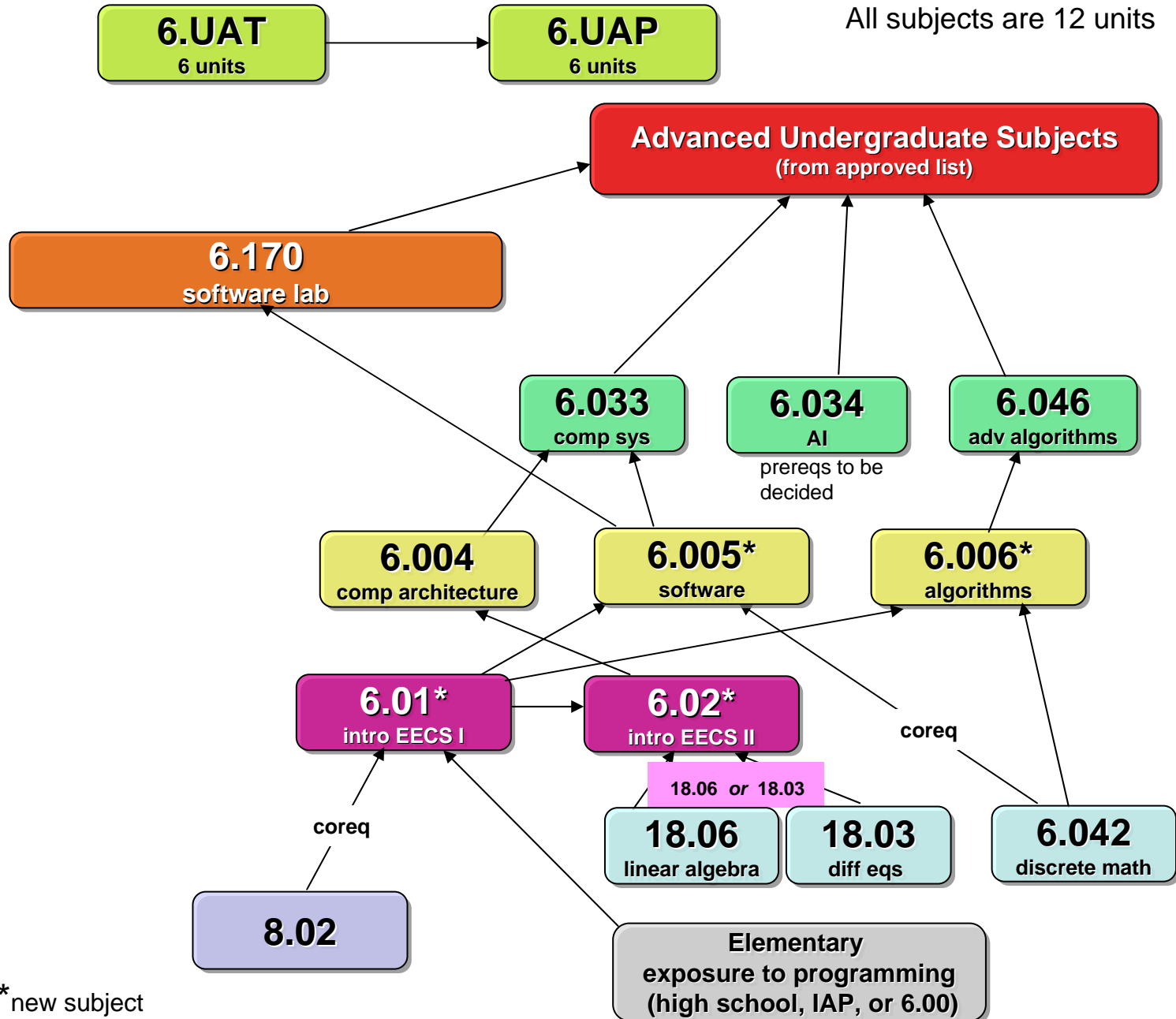
- Goals include:
 - Integrated hands-on introduction to EECS, 24 units (instead of current 60-unit "common core" of 6.001, 6.002, 6.003, 6.004)
 - Broader range of EECS topics accessible to each undergrad student
 - Multiple exposure to key ideas, in order to motivate and consolidate learning, and to enhance analytical skills
 - Depth in at least two student-selected areas of interest by end of SB
 - An evolvable curriculum structure
- Structure 

New 6-3: SB in Computer Science and Engineering

Subjects

All subjects are 12 units

$\frac{1}{2} + \frac{1}{2}$
 2
 1
 3
 Header
 3
 Foundation
 2
 Introductory
 (= 1 Institute Lab)
 2
 Math
 (= 2 REST)



* new subject

How to take advantage of 6.001 credit, and related comments

- For 2007-'08 academic year, prereqs currently listed in the Bulletin will work for all existing subjects!
 - e.g. 6.001 for 6.034; 6.001 and 6.042 for 6.046; 6.001 for 6.170; 6.004 alone for 6.033; etc.
- Also, 6.001 suffices (with 6.042 coreq) as prereq for 6.005 this coming academic year
- And 6.001 suffices (with 6.042 prereq, and some Python self-study) as prereq for 6.006 this coming year
- Class of 2010 opting for the new curriculum will be allowed to have 6.001 substitute for 6.005
- Students (in current or new curriculum, with 6.001 or 6.01 prereq, 6.042 coreq) can still take 6.005 + 3-unit software lab add-on (which will be offered in IAP and spring) to count instead of 6.170
- Students in the current curriculum can take 6.006 to count instead of 6.046 (new curriculum requires both) --- and 6.046 can then count as an additional "engineering concentration" subject

New 6-1: SB in Electrical Science & Engineering

Subjects

All subjects are 12 units

$\frac{1}{2} + \frac{1}{2}$

6.UAT

6 units

6.UAP

6 units

2

Advanced Undergraduate Subjects
(from approved list)

1

6.100 – 6.182
department laboratory

3

6.013

electromag

6.011

comm, cntrl, sig proc

6.012

devices & circuits

6.021

bio/ee

Header

6.002 or 6.003

3

Foundation

6.007*

appl electromag

6.002

circuits

6.003

signals & systems

6.004

comp architecture

2

Introductory
(= 1 Institute Lab)

6.01*

intro EECS I

6.02*

intro EECS II

2

Math
(= 2 REST)

6.041

probability

18.03

diff eqs

coreq

8.02

Elementary
exposure to programming
(high school, IAP, or 6.00)

New 6-1: Your SB in Electrical Science & Engineering?

Subjects

All subjects are 12 units

$\frac{1}{2} + \frac{1}{2}$

6.UAT
6 units

6.UAP
6 units

2

Advanced Undergraduate Subjects
(from approved list)

1

6.100 – 6.182
department laboratory

3

Header

6.013
electromag

6.012
devices & circuits

6.021
bio/ee

3

Foundation

6.007*
appl electromag

6.002
circuits

6.004
comp architecture

2

Introductory
(= 1 Institute Lab)

6.01*
intro EECS I

6.02*
intro EECS II

2

Math
(= 2 REST)

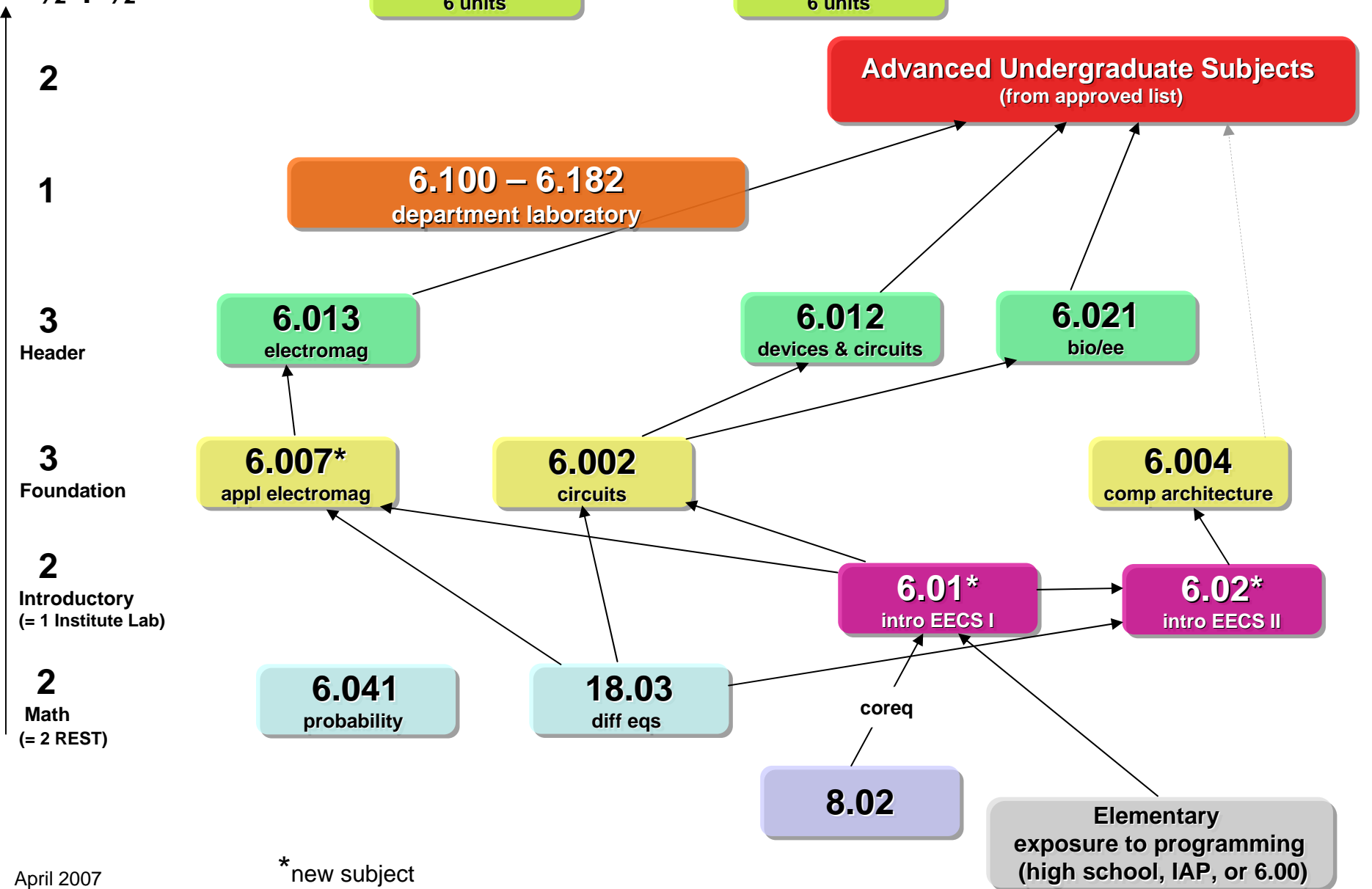
6.041
probability

18.03
diff eqs

8.02

Elementary
exposure to programming
(high school, IAP, or 6.00)

* new subject



New 6-1: Your SB in Electrical Science & Engineering?

Subjects

All subjects are 12 units

$\frac{1}{2} + \frac{1}{2}$

6.UAT

6 units

6.UAP

6 units

2

Advanced Undergraduate Subjects
(from approved list)

2

1

6.100 – 6.182
department laboratory

3

Header

6.011

comm, cntrl, sig proc

6.012

devices & circuits

6.021

bio/ee

3

Foundation

6.002

circuits

6.003

signals & systems

6.004

comp architecture

2

Introductory
(= 1 Institute Lab)

6.002 or 6.003

6.01*

intro EECS I

6.02*

intro EECS II

2

Math
(= 2 REST)

6.041

probability

18.03

diff eqs

coreq

8.02

Elementary
exposure to programming
(high school, IAP, or 6.00)

How to take advantage of 6.002 credit, and related comments

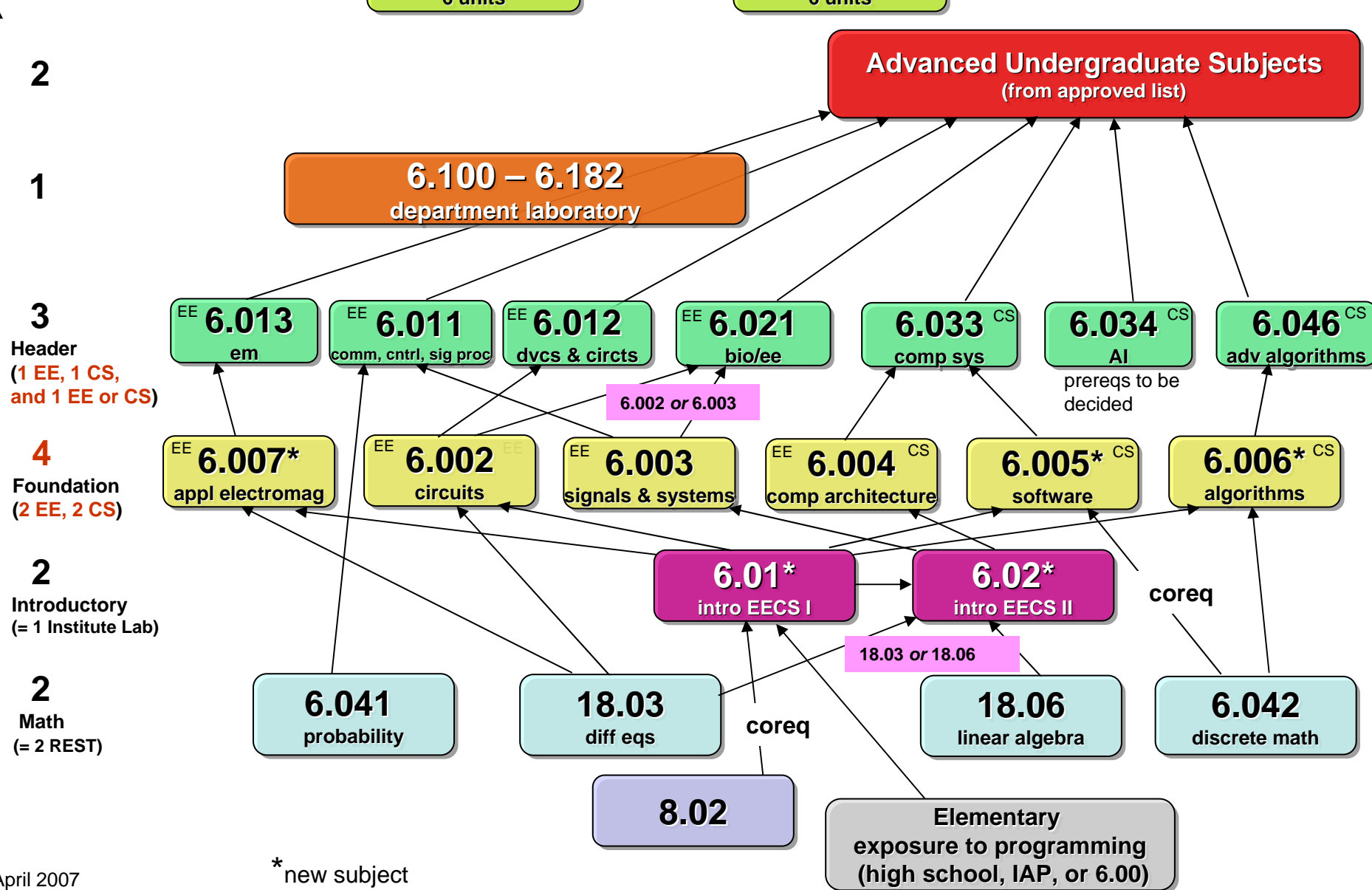
- 6.002 is a good Foundation class for both 6-1 and 6-2 (see later) SB programs
- For 2007-'08 academic year, 8.02 and 18.03 suffice as prereqs for 6.007
- Students staying with the current curriculum can take 6.007 to count instead of 6.013 (new curriculum requires both), and 6.013 can then count as an additional "engineering concentration"

New 6-2: SB in Electrical Engineering & Computer Science

Subjects

1/2 + 1/2

All subjects are 12 units



New 6-2: Your SB in EECS?

Subjects

1/2 + 1/2

All subjects are 12 units

2

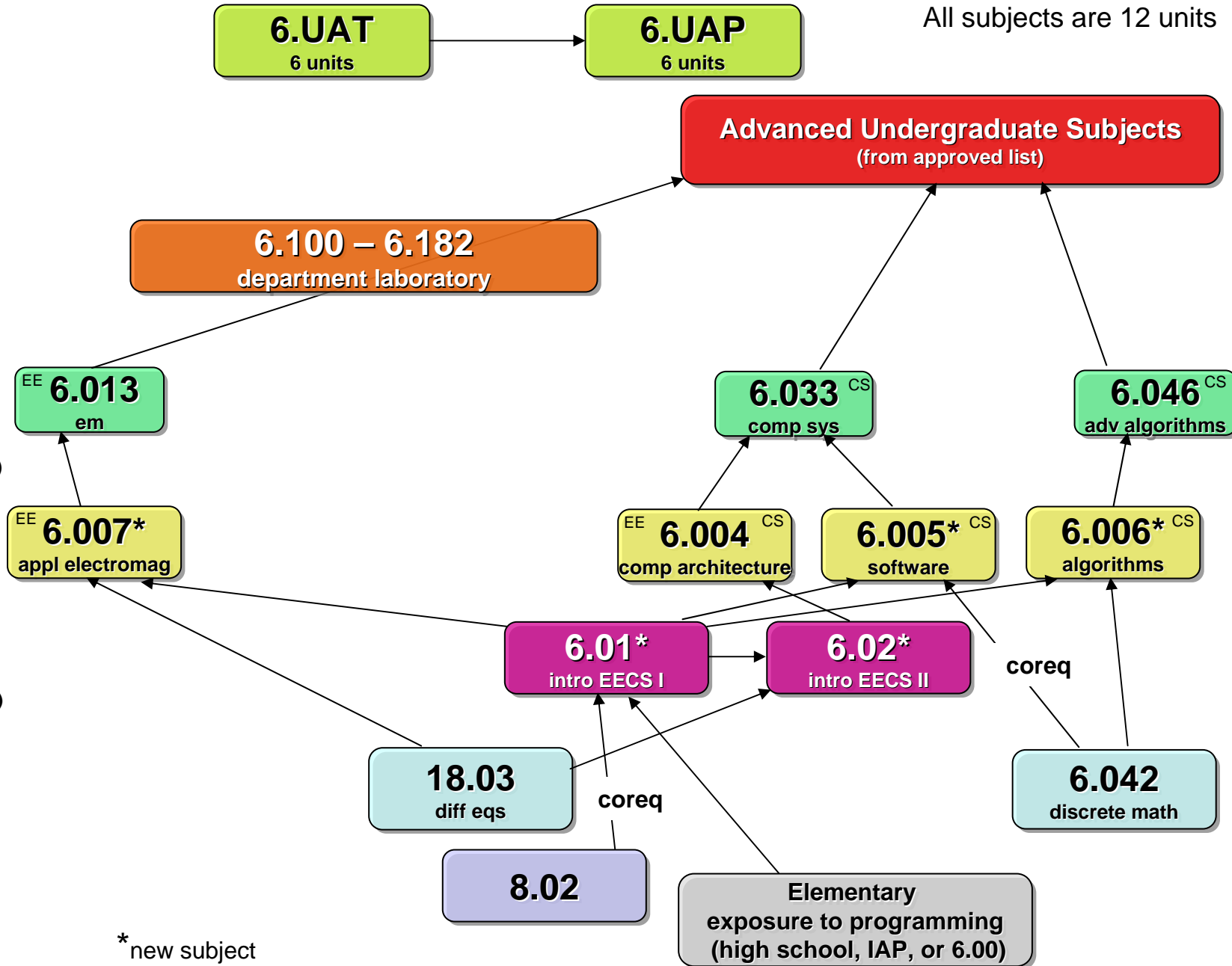
1

3
Header
(1 EE, 1 CS,
and 1 EE or CS)

4
Foundation
(2 EE, 2 CS)

2
Introductory
(= 1 Institute Lab)

2
Math
(= 2 REST)



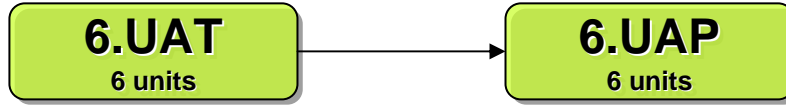
* new subject

New 6-2: Your SB in EECS?

Subjects

All subjects are 12 units

1/2 + 1/2



2



1

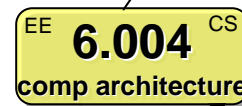
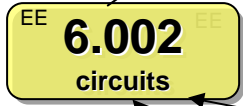
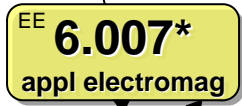


3



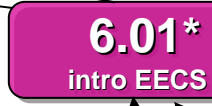
Header
(1 EE, 1 CS,
and 1 EE or CS)

4



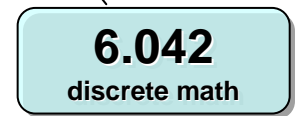
Foundation
(2 EE, 2 CS)

2

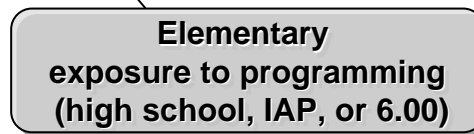


Introductory
(= 1 Institute Lab)

2



Math
(= 2 REST)



* new subject

New 6-2: Your SB in EECS?

Subjects

1/2 + 1/2

All subjects are 12 units

2

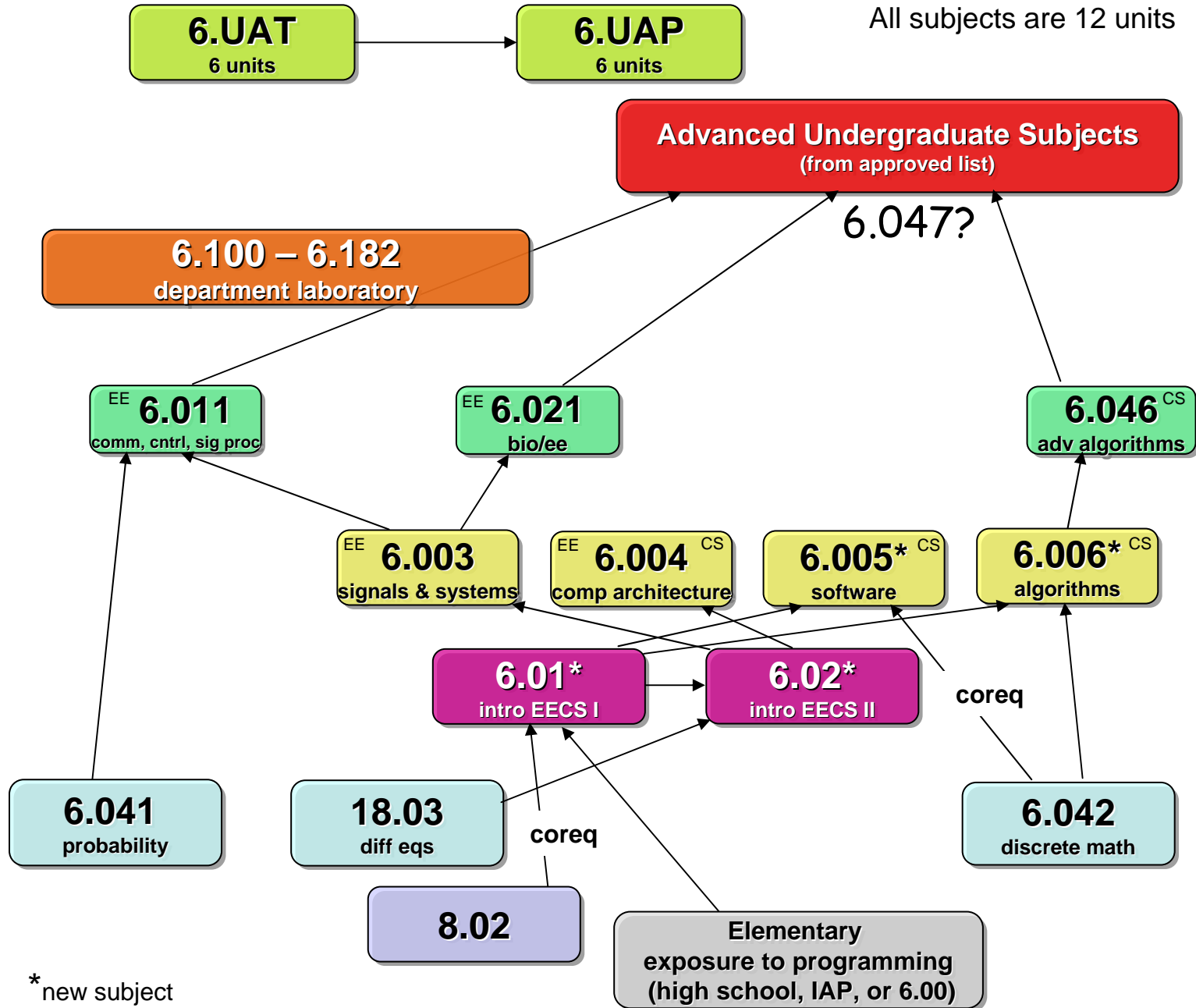
1

3
Header
(1 EE, 1 CS,
and 1 EE or CS)

4
Foundation
(2 EE, 2 CS)

2
Introductory
(= 1 Institute Lab)

2
Math
(= 2 REST)



* new subject

New 6-2: Your SB in EECS?

Subjects

1/2 + 1/2

All subjects are 12 units

2

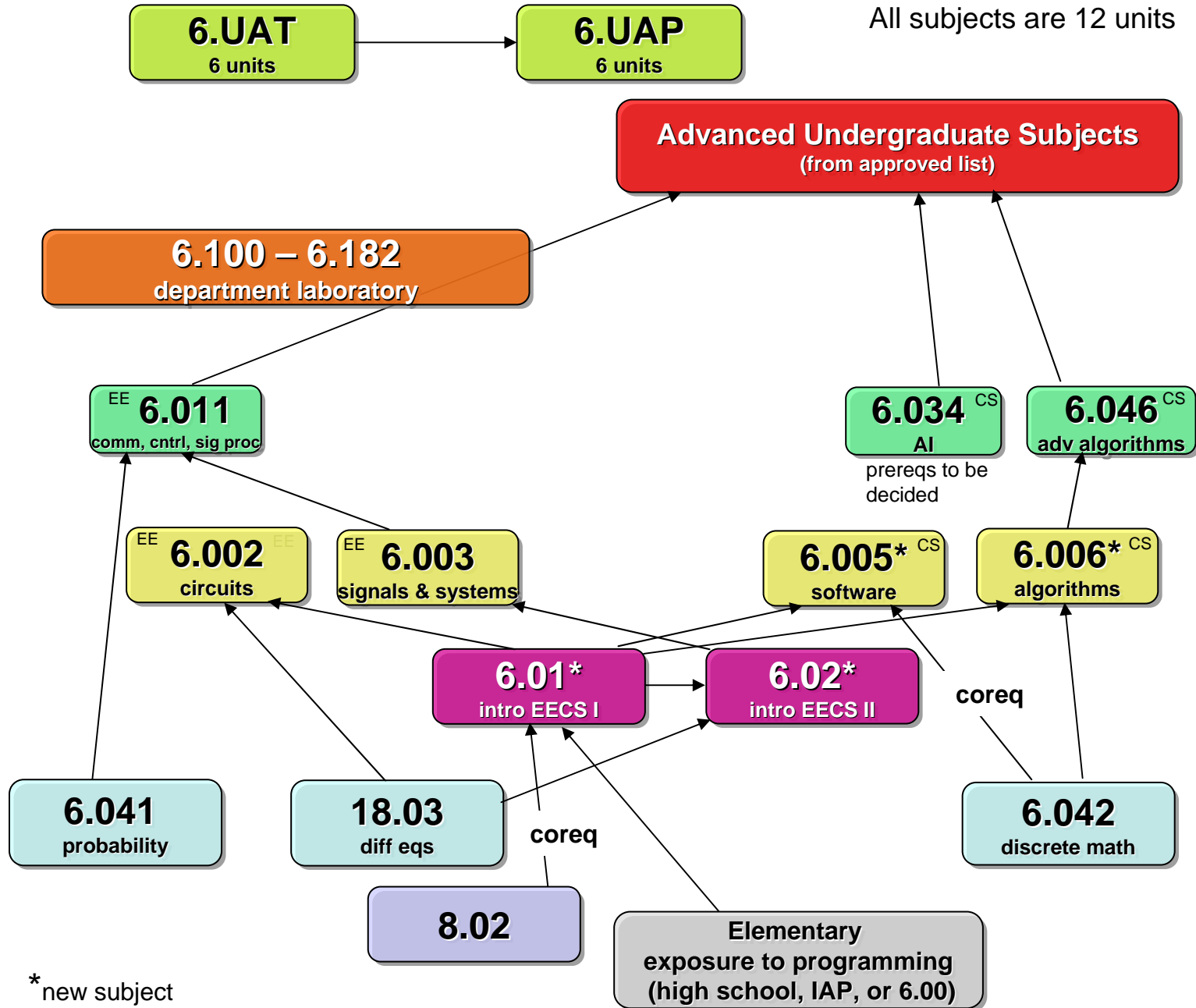
1

3
Header
(1 EE, 1 CS,
and 1 EE or CS)

4
Foundation
(2 EE, 2 CS)

2
Introductory
(= 1 Institute Lab)

2
Math
(= 2 REST)



* new subject

Some comments on 6-2

- Much more flexibility
- More demanding than new 6-1, 6-3 in requiring 1 additional Foundation subject
- More demanding than current 6-2
- May need both 6.041 and 6.042 to take advantage of some allowed combinations, but many interesting combinations will still only require one of these

Class of 2010: Staying with the current curriculum

- E.g., if you are aimed at 6-1 (EE) and have already taken 6.001
- The following substitutions are available:
 - 6.01 or 6.02 (or their respective predecessors 6.081, 6.082) as a department lab (or both together as Institute lab), or as an unrestricted "x" elective
 - 6.01 + 3-unit Scheme supplement (6.188) instead of 6.001
 - 6.005 + 3-unit software lab supplement instead of 6.170
 - 6.006 instead of 6.046 (and 6.046 as further EC)
 - 6.007 instead of 6.013 (and 6.013 as further EC)
 - 12-unit versions of 6.002, 6.003, 6.004 (when they become available, in 2008-'09 academic year) instead of the 15-unit versions

Class of 2010: Switching to the new curriculum

- If you have not yet taken 6.001
 - Proceed to 6.01 next term (coreq: 8.02; prereq: high school or IAP programming exposure - otherwise consider taking 6.00 first)
- If you will have completed 6.001 by the end of this term
 - Use 6.001 instead of 6.005 as Foundation subject [advantageous only for new 6-2 (EECS) or 6-3 (CS) programs, because new 6-1 (EE) doesn't need 6.005.]
 - Then, if you want/need to do 6.170 as your laboratory subject, take current 15-unit version of 6.170 or take 6.005 with a 3-unit software lab supplement
 - Or just use 6.001 as general elective (e.g., for 6-1 students in new curriculum)
- If you will have completed 6.01 (6.081) or 6.02 (6.082) by the end of this term, switching to the new curriculum may be the natural and advantageous thing to do