Briefing on
Bachelor of Computing
Computer Science and Information Security
2016 / 17

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Deputy Head (CS Programs)

A/P Chang Ee-Chien
A/P Roland Yap
A/P Rudy Setiono

InfoSec Joint Academic Committee

1. Degree Requirements for BComp(CS)
2. Degree Requirements for BComp(InfoSec)
3. Tips on Study Planning
4. Q&A

Disclaimer: Information on this set of slides have been simplified to a form suitable for a 40-min presentation, and should not be treated as official degree requirements. Students should always refer to official SoC Website and NUS Bulletin for complete, up-to-date, information.

http://www.nus.edu.sg/nusbulletin/school-of-computing/undergraduate-education/degree-requirements/bachelor-of-computing-in-information-security/

Degree Requirements (cohort 16/17)

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BComp(CS)

Degree Requirement

(cohort 16/17)

http://www.nus.edu.sg/nusbulletin/school-of-computing/undergraduate-education/degree-requirements/bachelor-of-computing-in-computer-science/

Special Programmes & Double Degree Programmes

requirements are slightly different

120 MC
Program
Requirements

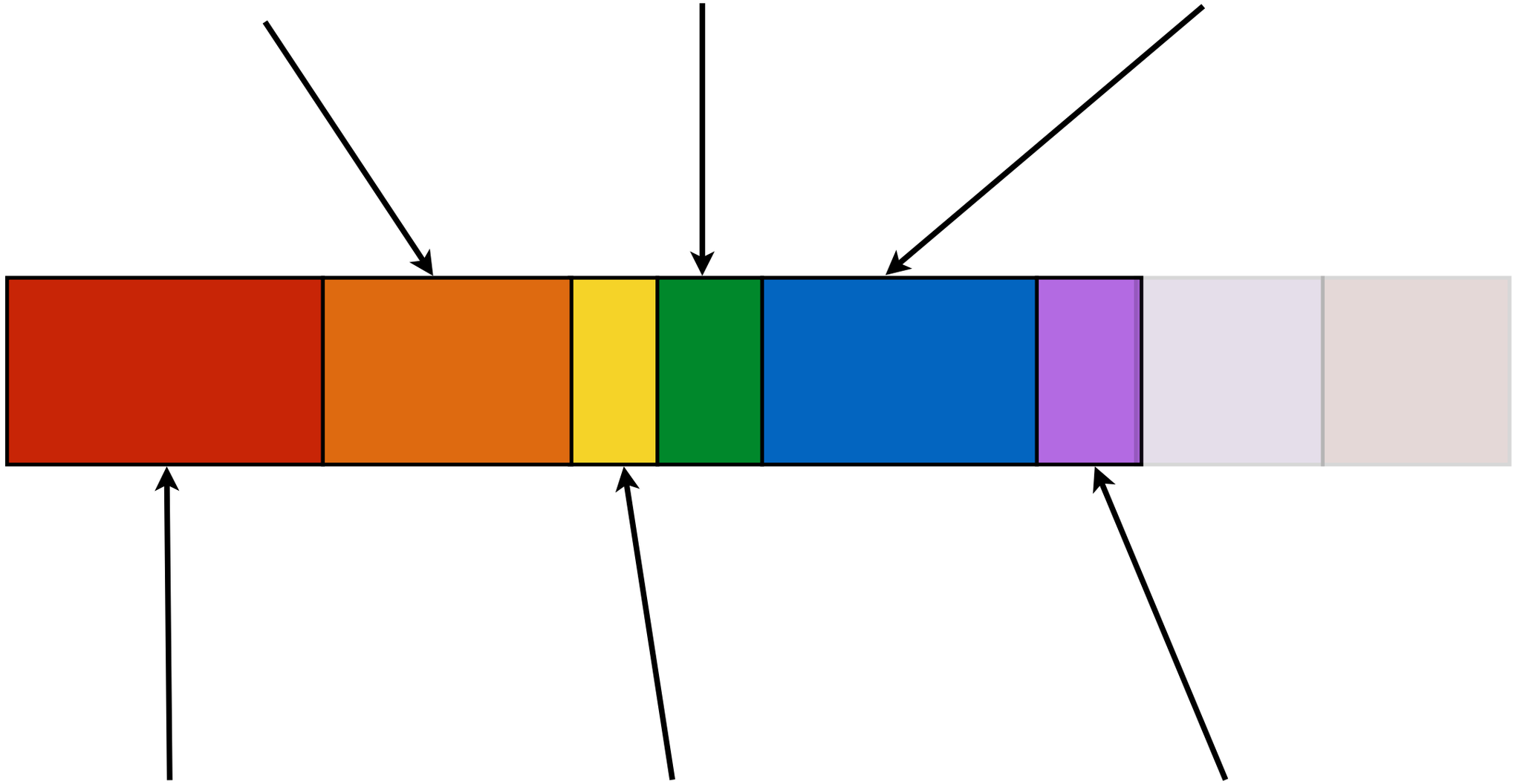
20 MC
Unrestricted
Electives

20 MC
Uni-level
Requirements

24 MCs
Breadth & Depth

12 MCs
Industrial Experience

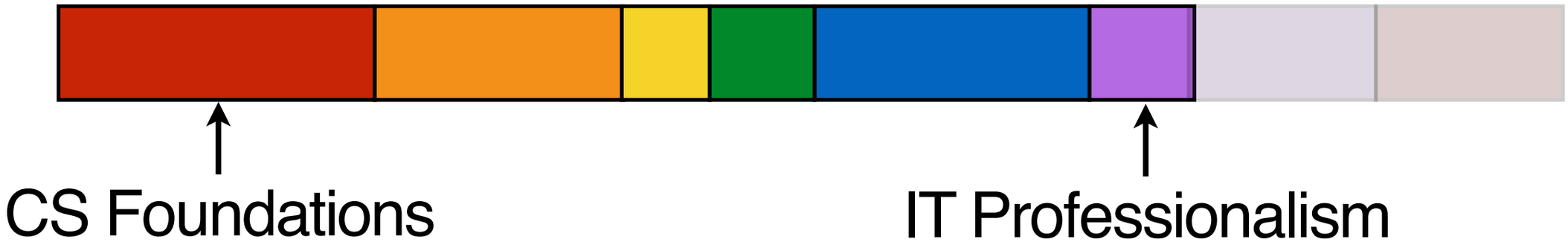
28 MCs
Math & Sci



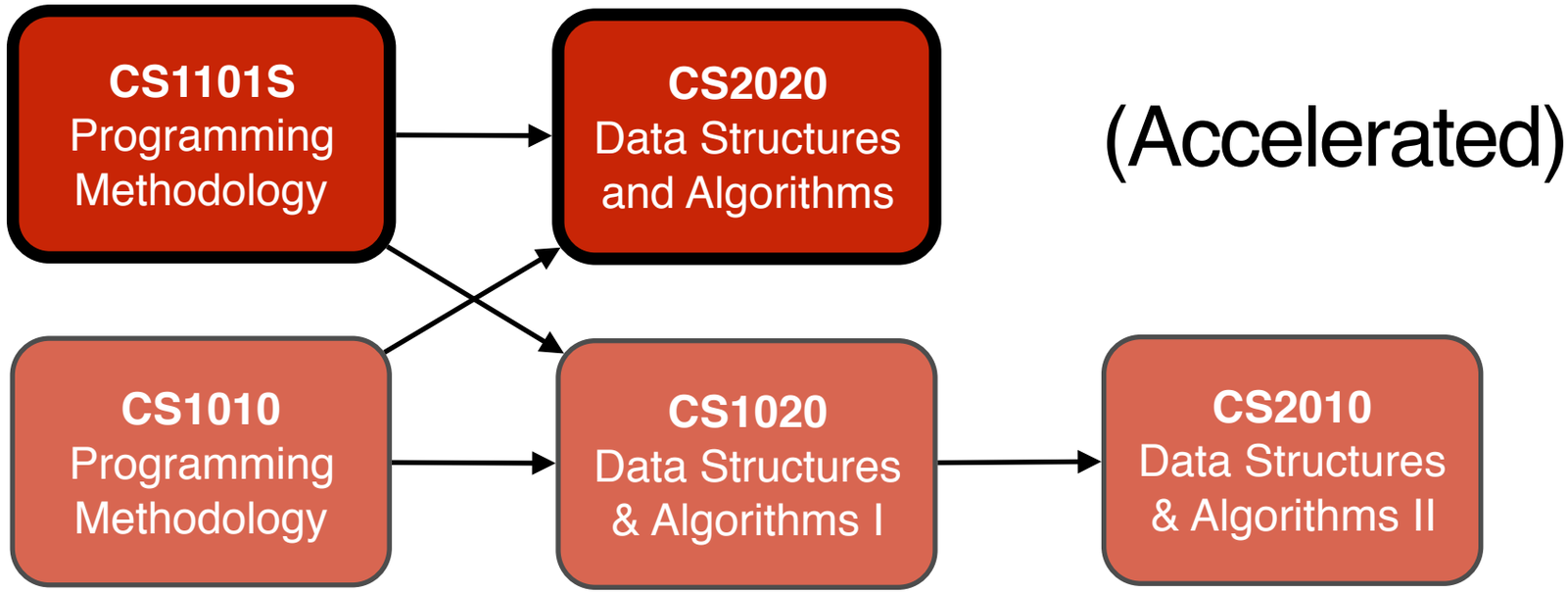
36 MCs
CS Foundations

8 MCs
Team Project

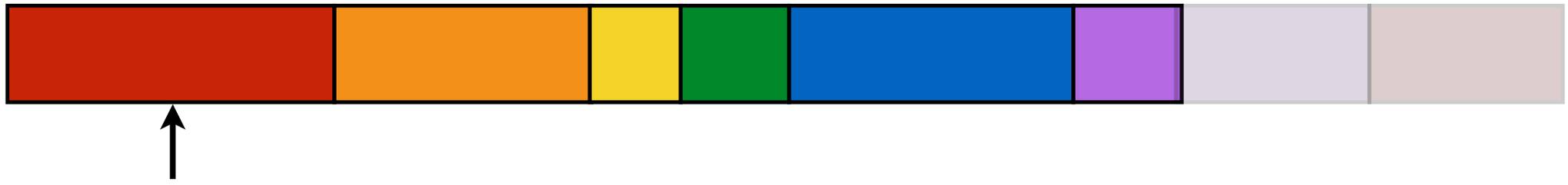
12 MCs
IT Professionalism



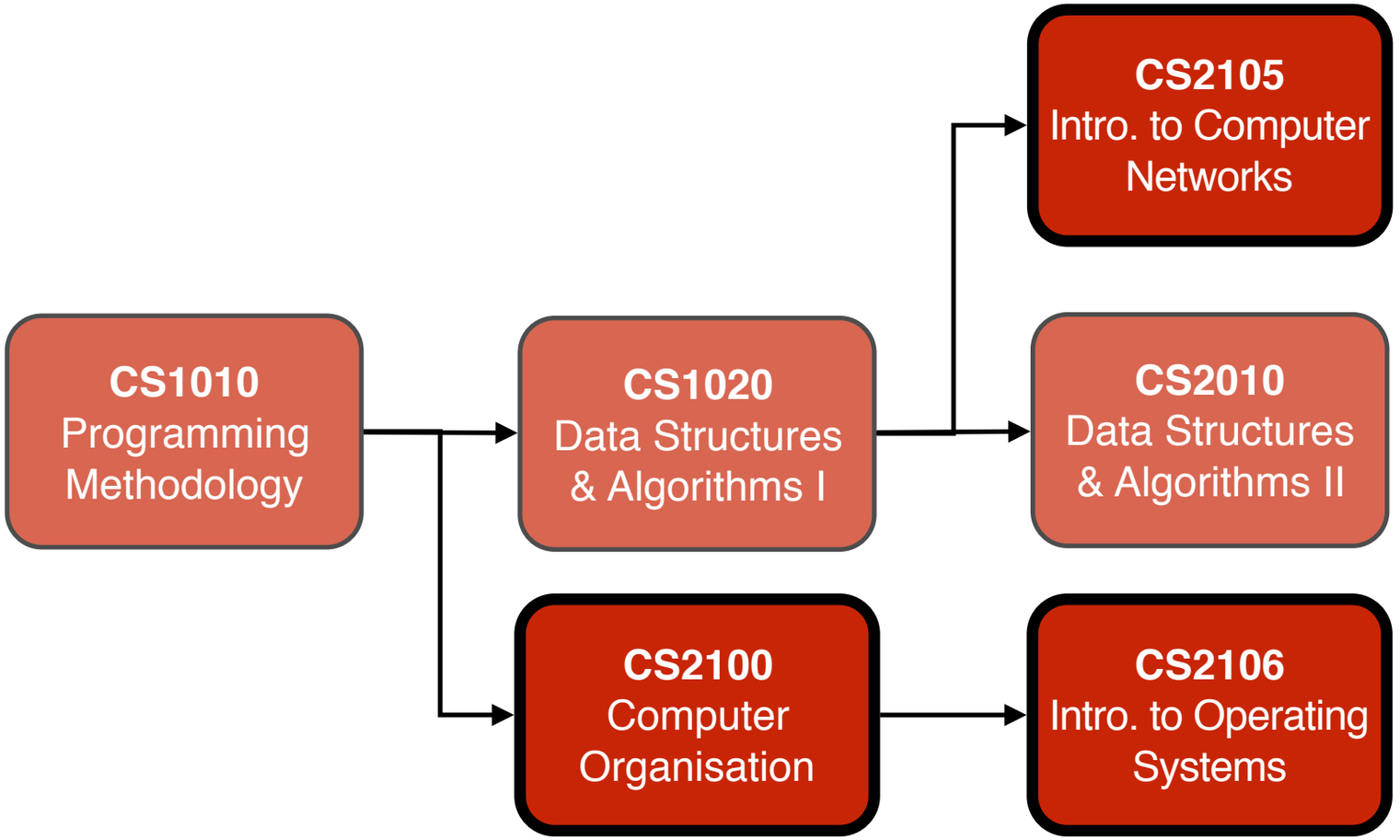
“Programming Fundamentals”

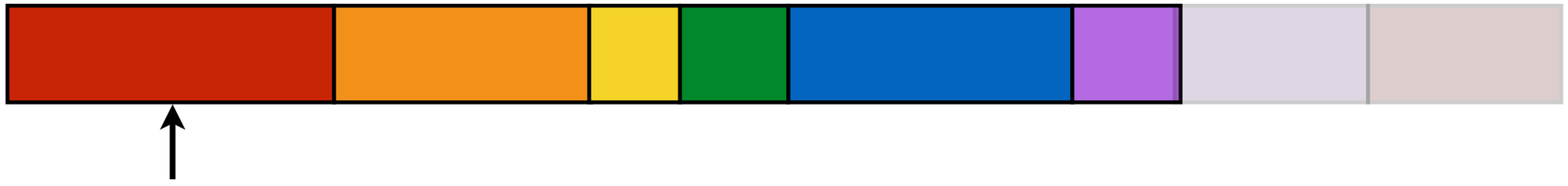


(Accelerated)

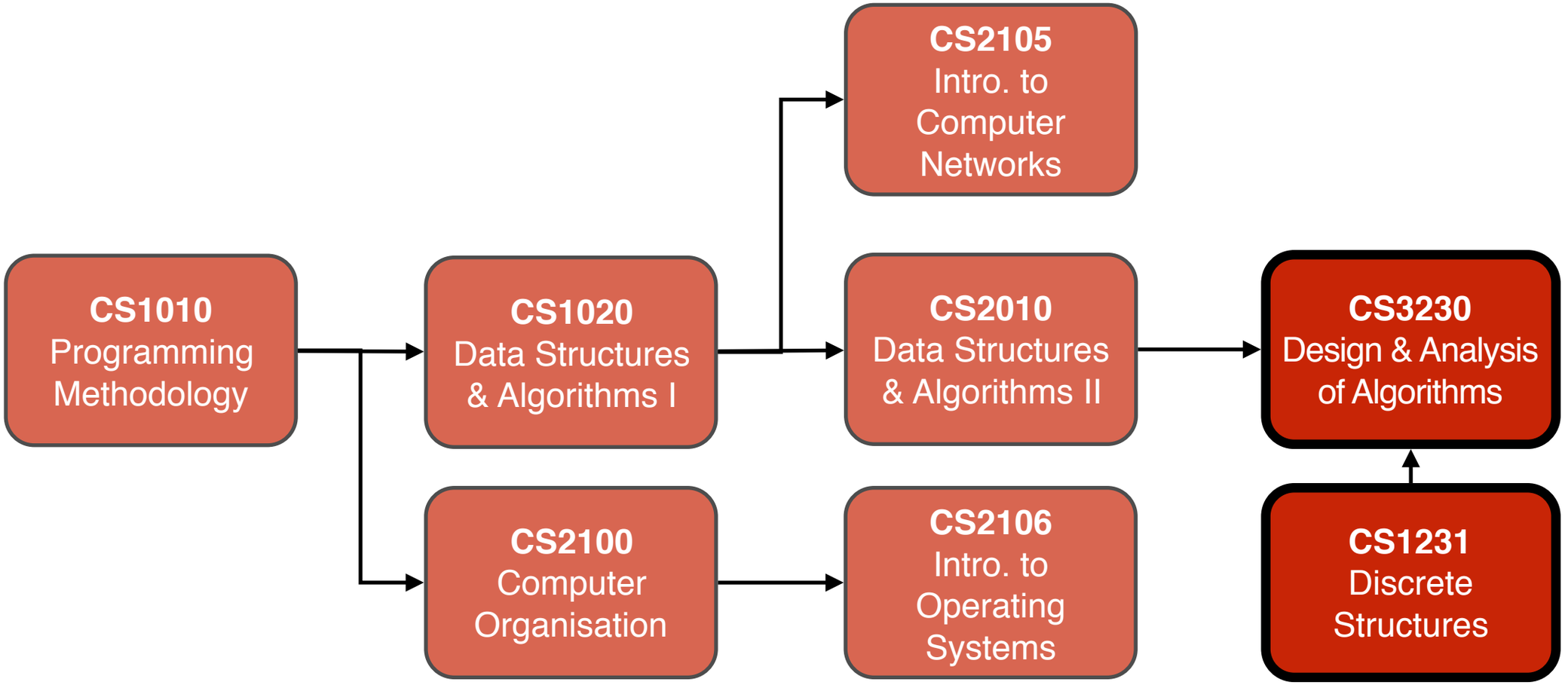


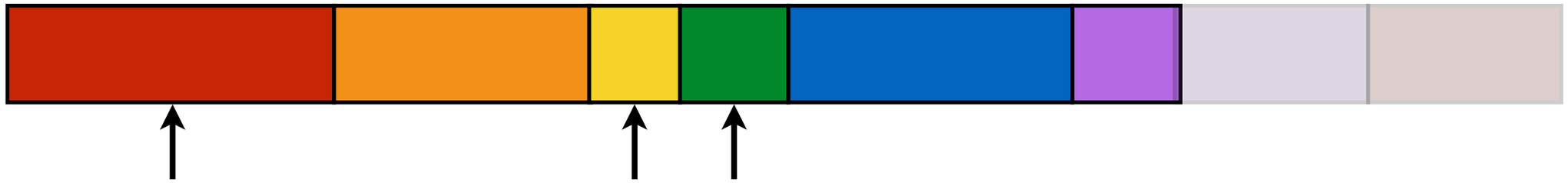
"Computer Systems"



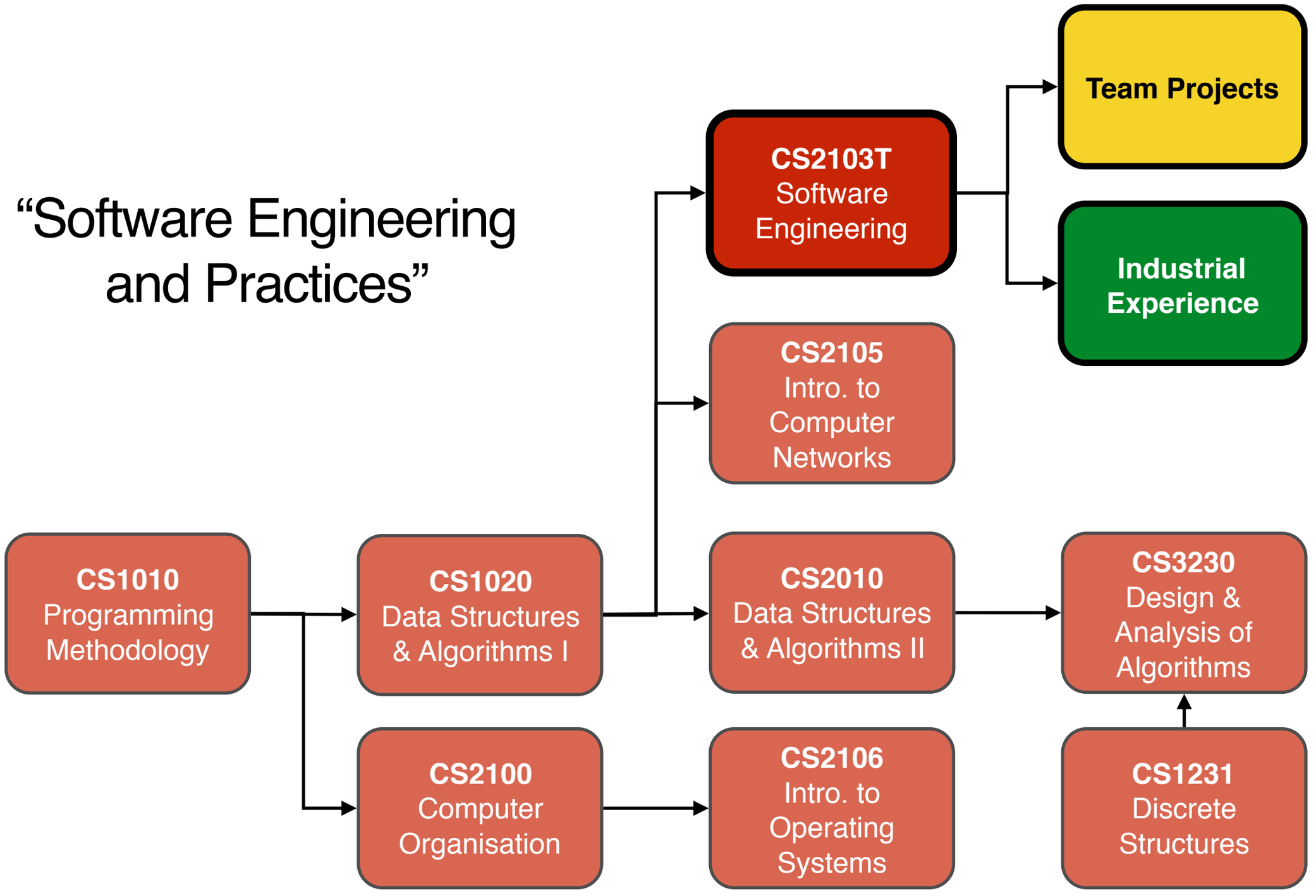


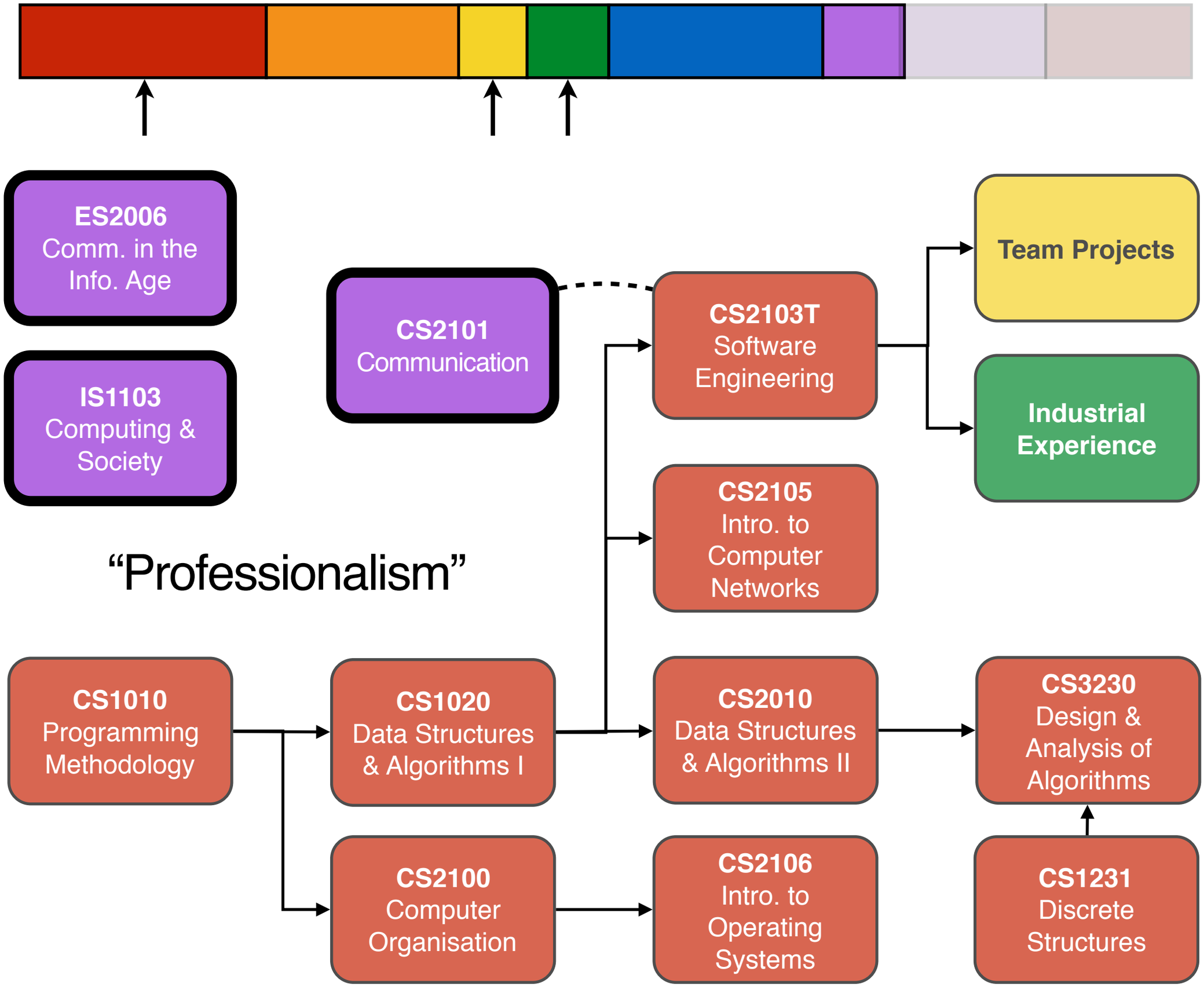
“Theoretical Foundation”

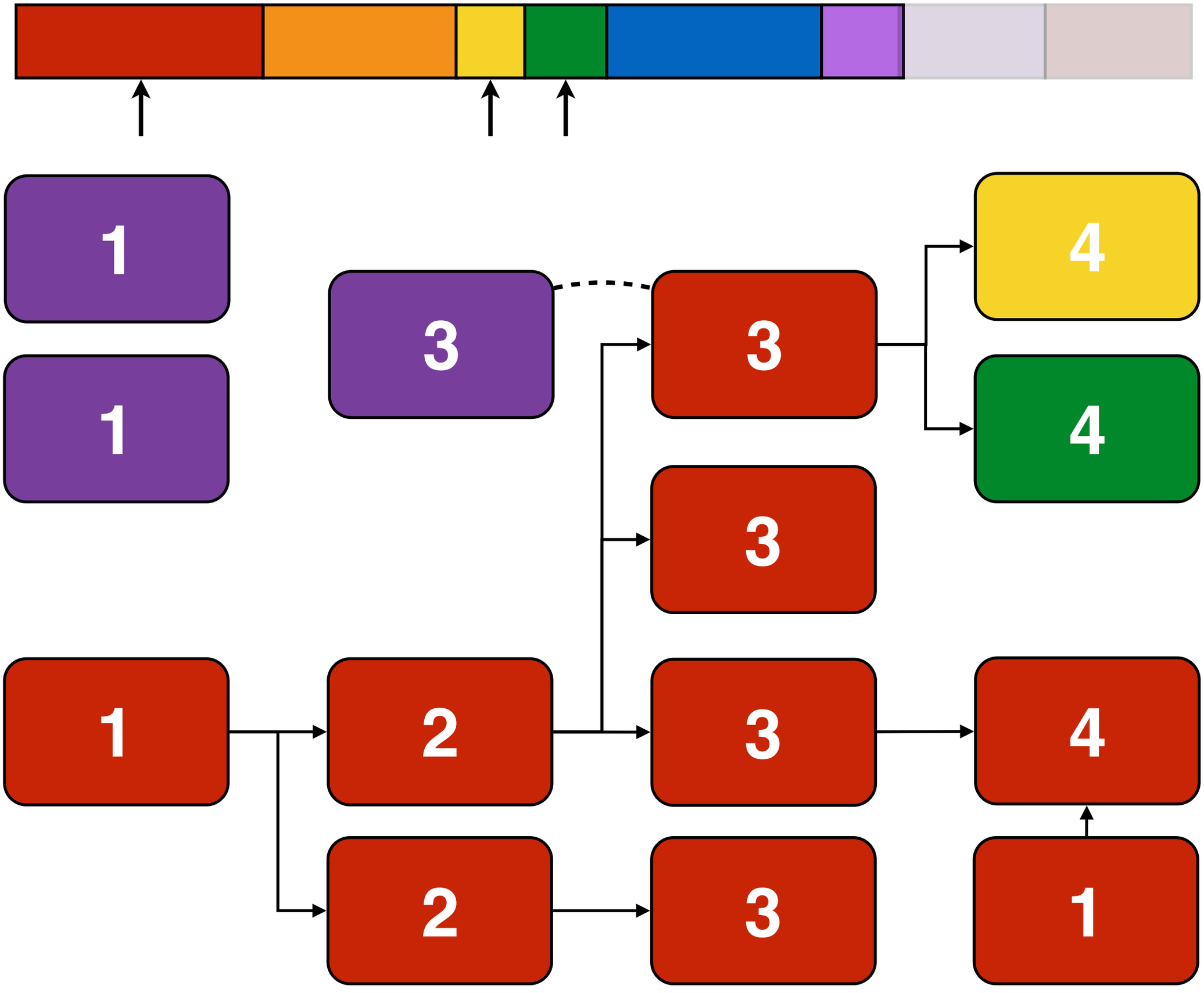




"Software Engineering and Practices"




ES2006
Comm. in the Info. Age
IS1103
Computing & Society
"Professionalism"
CS2101
Communication
CS2103T
Software Engineering
CS2105
Intro. to Computer Networks
Team Projects
Industrial Experience
CS1010
Programming Methodology
CS1020
Data Structures & Algorithms I
CS2100
Computer Organisation
CS2010
Data Structures & Algorithms II
CS2106
Intro. to Operating Systems
CS3230
Design & Analysis of Algorithms
CS1231
Discrete Structures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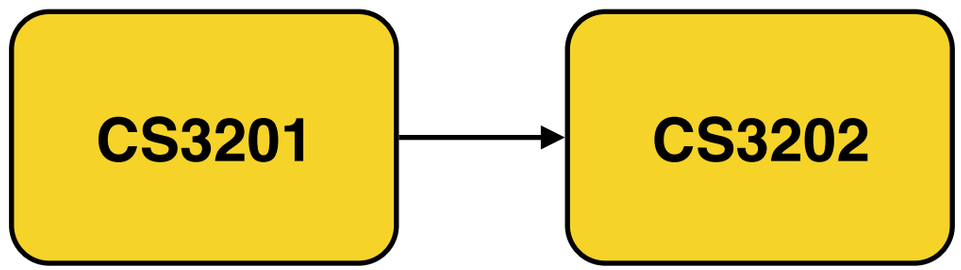
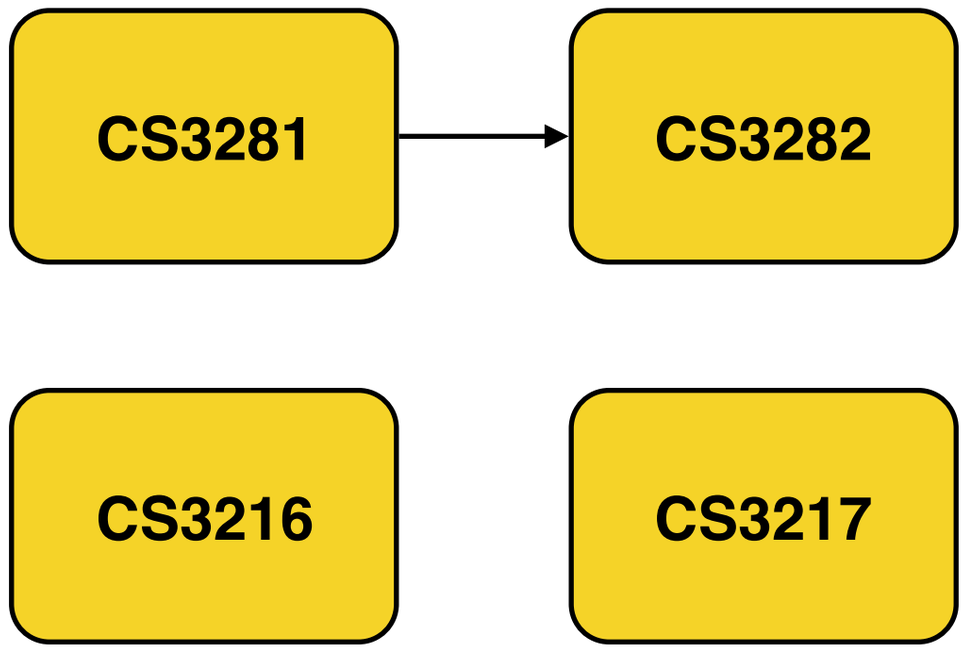
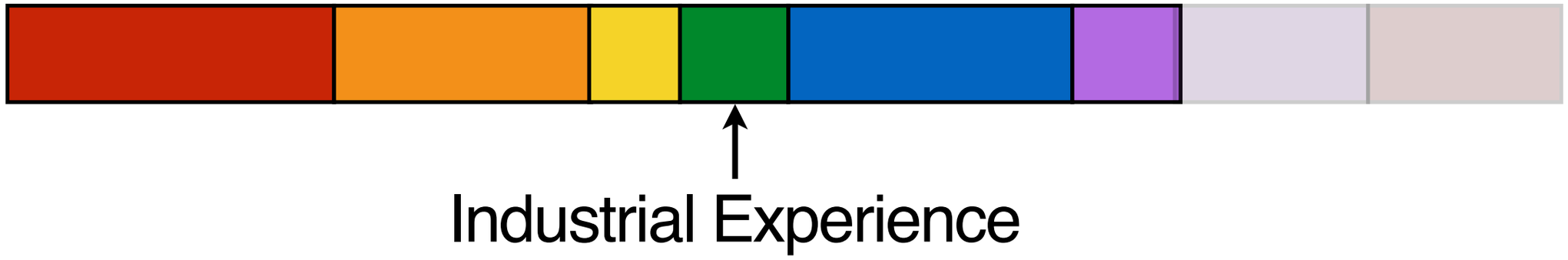
Team Projects


CS3201
CS3202


CS3281
CS3282
CS3216
CS3217


Industrial Experience
CP3880 ATAP
CP3200
SIP I
CP3201
SIP II
CP3200
SIP I
Industry
Module^
IS4010
iLead
NOC
FYP*

Math and Science

MA1301 Introductory Mathematics

or

A-Level Mathematics

MA1521 Calculus for Computing

MA1101R Linear Algebra I

MA2213 Numerical Analysis I
MA2214 Combinatorics and Graph
ICM1121 Organic Chemistry I
CM1131 Physical Chemistry I
CM1417 Fund. of Chemistry
LSM1301 General Biology
LSM1302 Genes and Society
PC1221 Fundamental of Physics I
PC1222 Fundamental of Physics II
PC1141 Physics I
PC1142 Physics II
PC1143 Physics III
PC1144 Physics IV
PC1432 Physics IIE

pick 2*

ST2334 Probability and Statistics

or

ST2131 Probability

&

ST2132 Mathematical Statistics

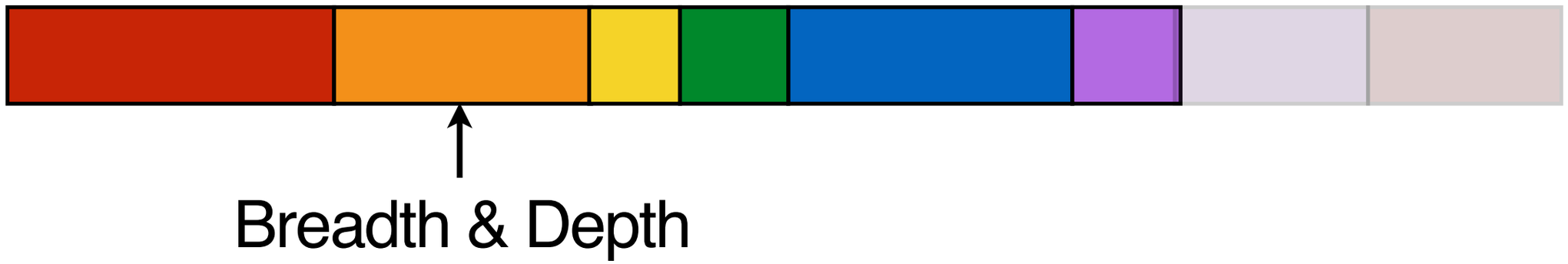
PC1221 Fundamental of Physics I

or

PC1222 Fundamental of Physics II

or

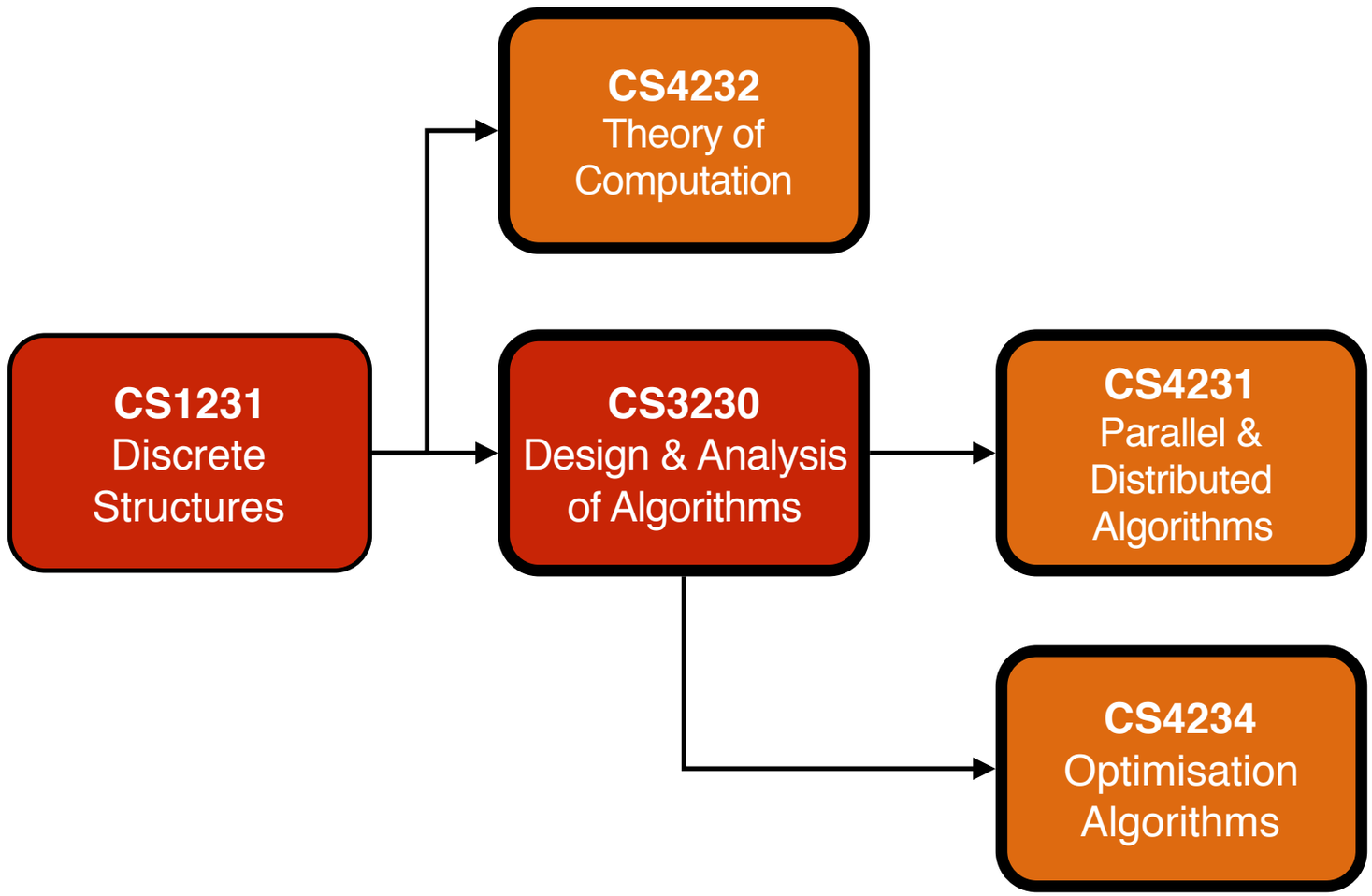
A-Level Physics



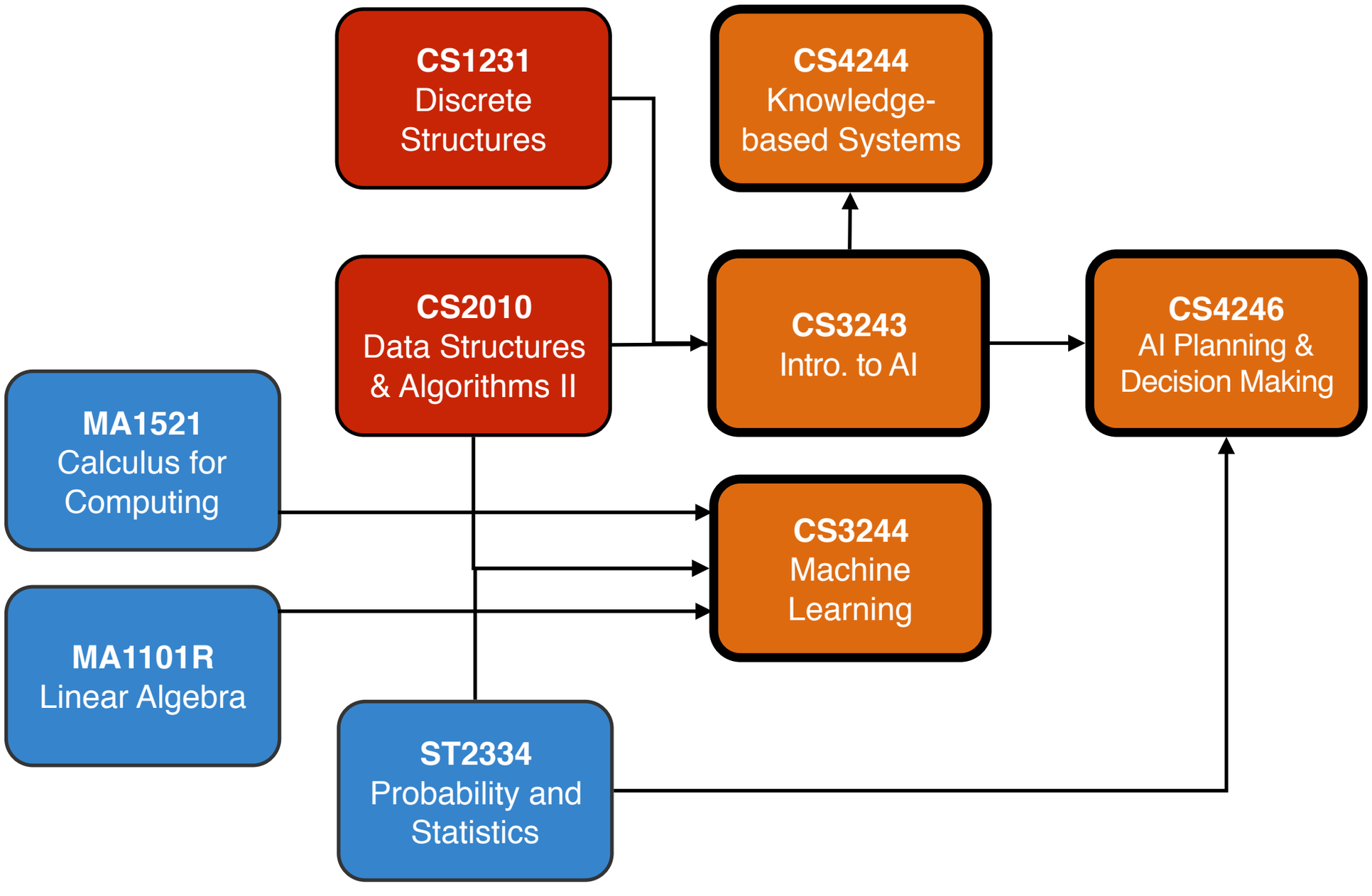
Complete >= **12** MCs at Level-4000 or above

Satisfy at least one CS Focus Area: by completing three modules in Area Primaries (at least one at Level-4000 or above)

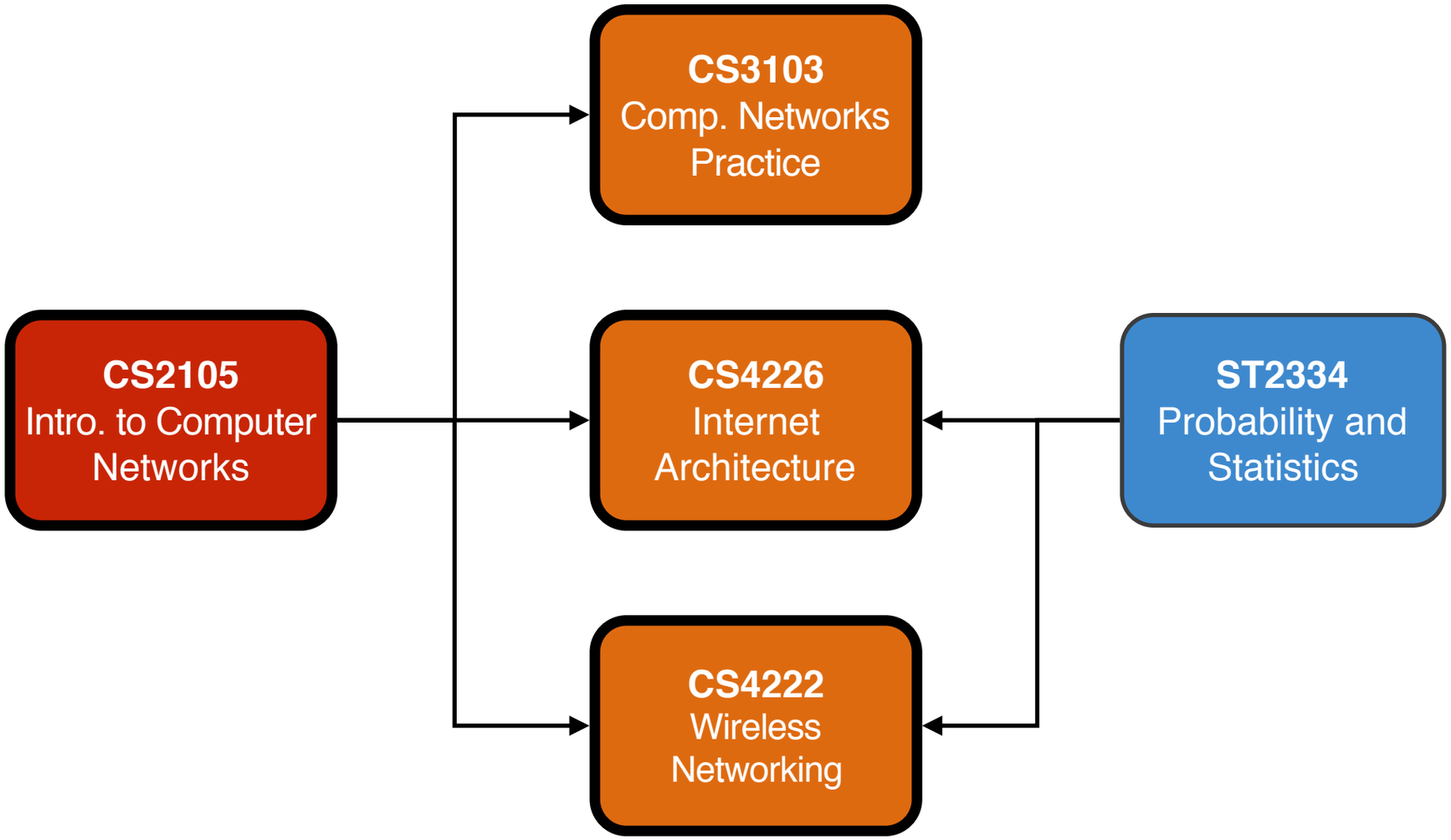
Algorithms & Theory



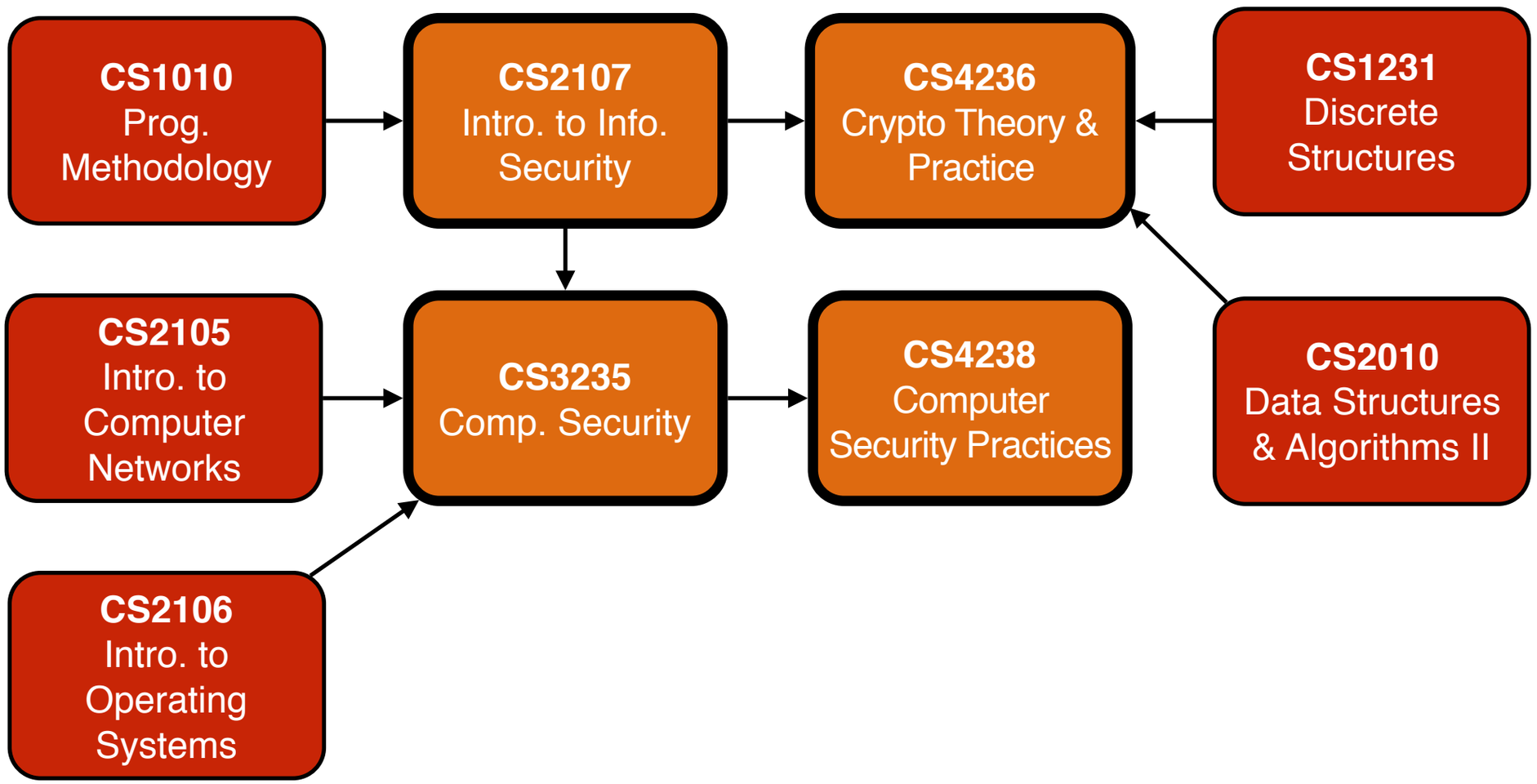
Artificial Intelligence



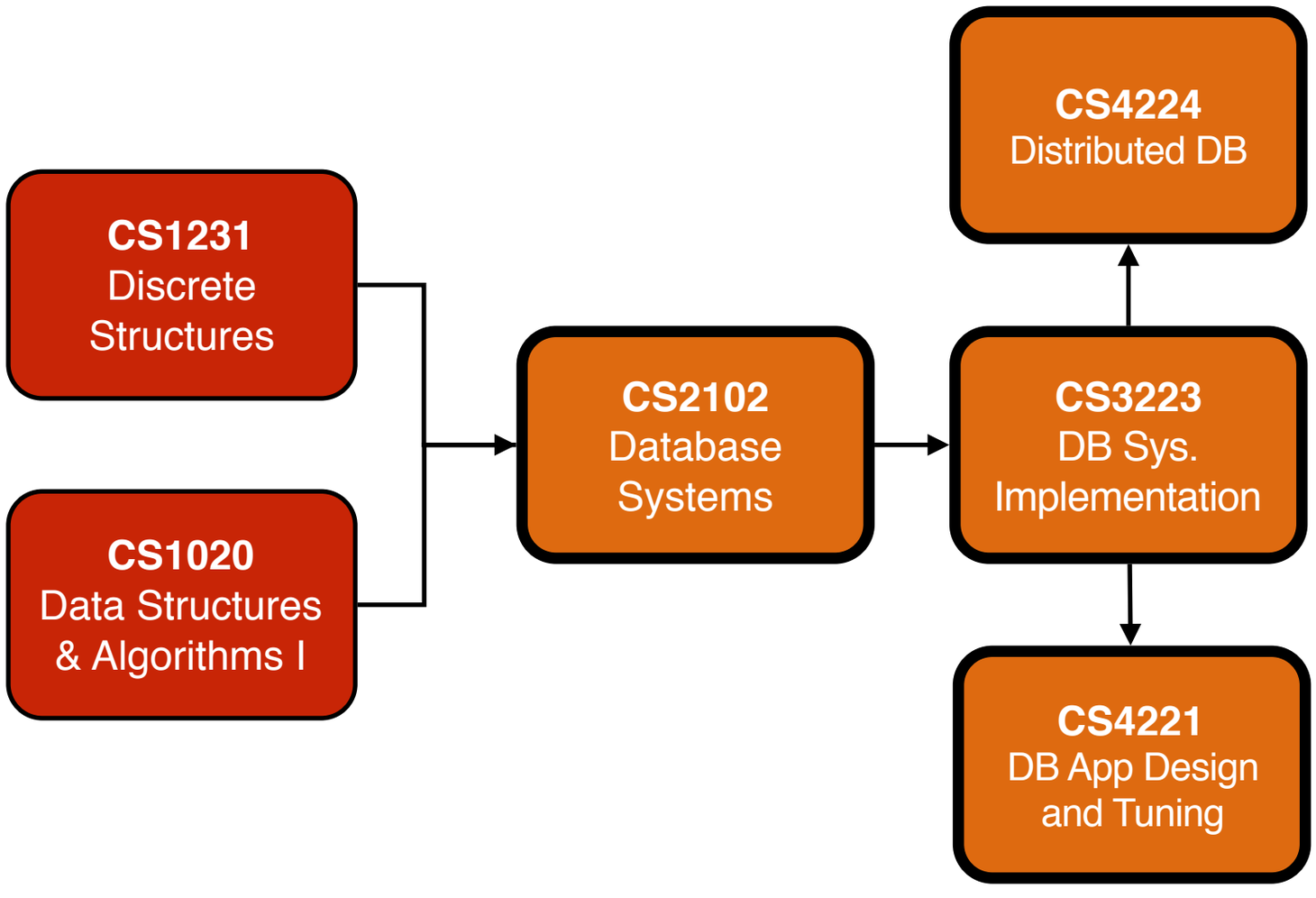
Computer Networks



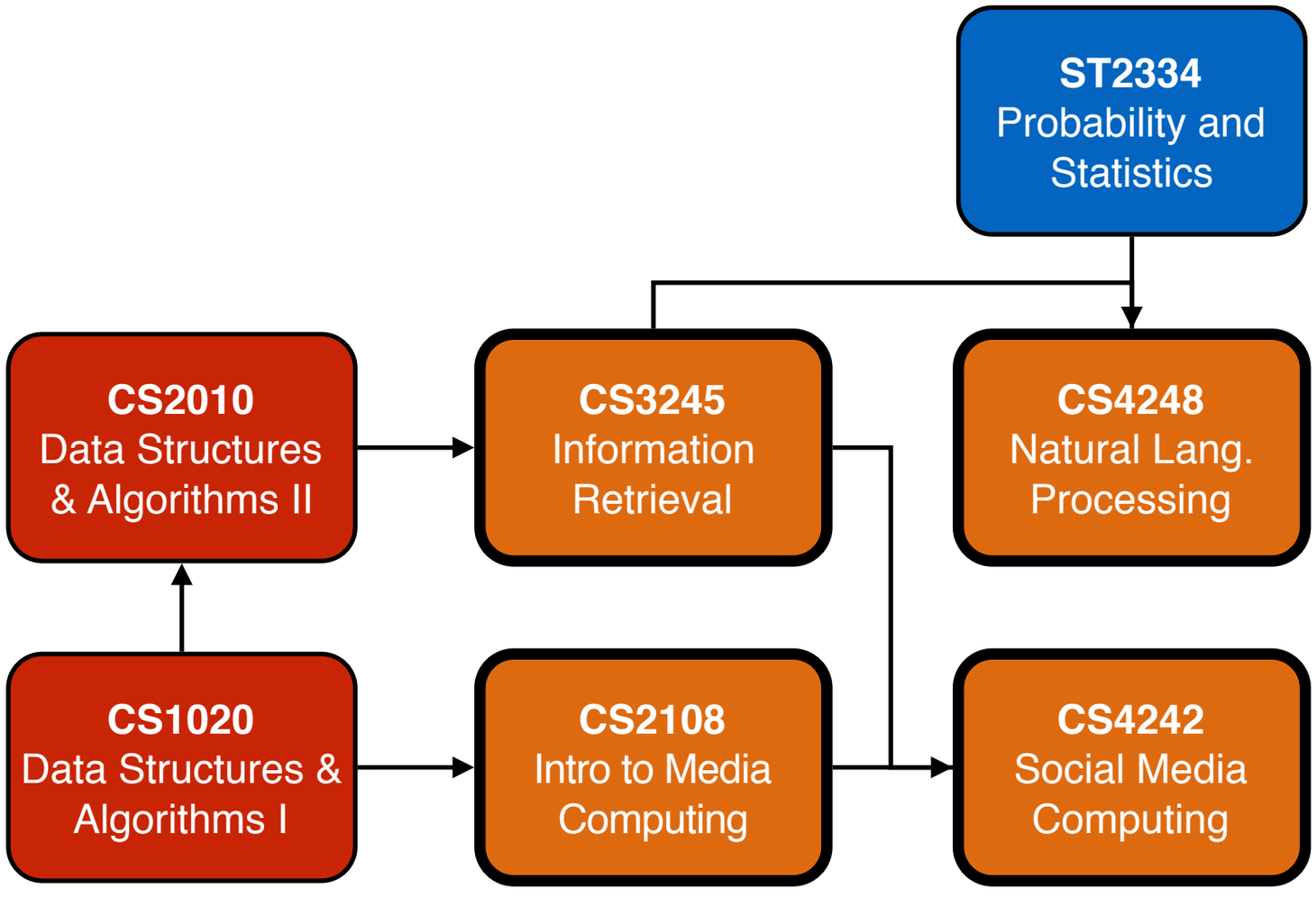
Computer Security



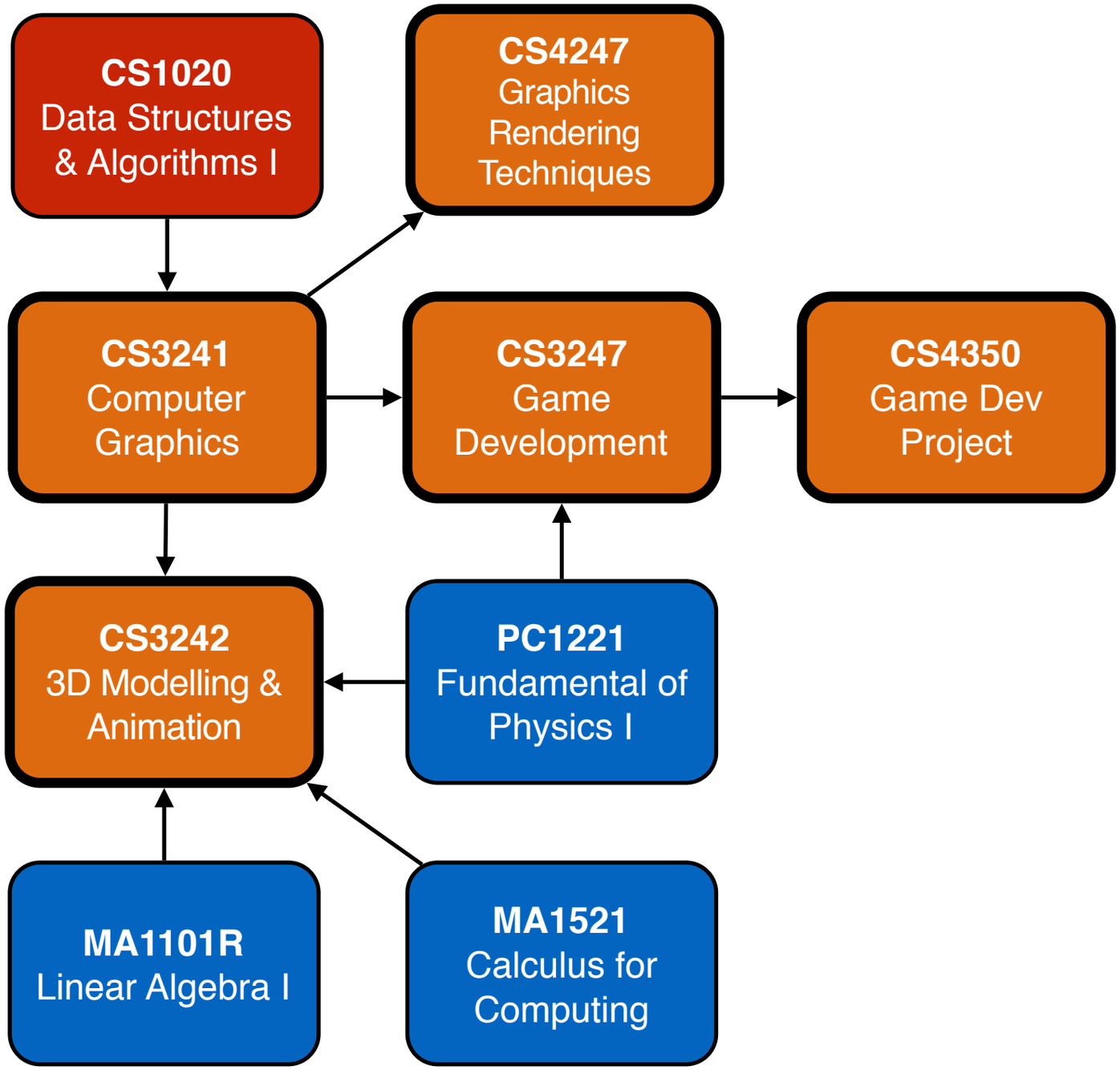
Database Systems



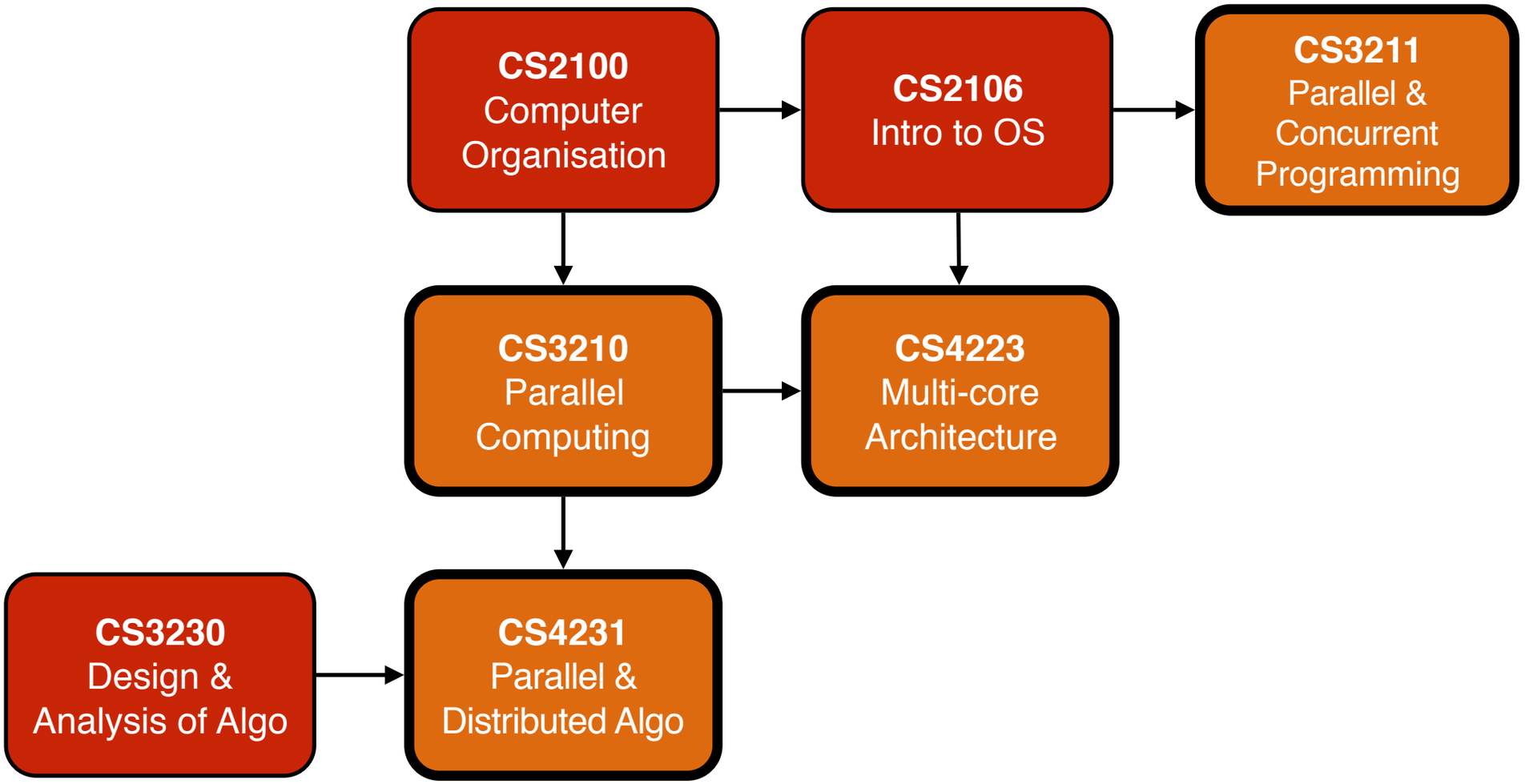
Multimedia Information Retrieval



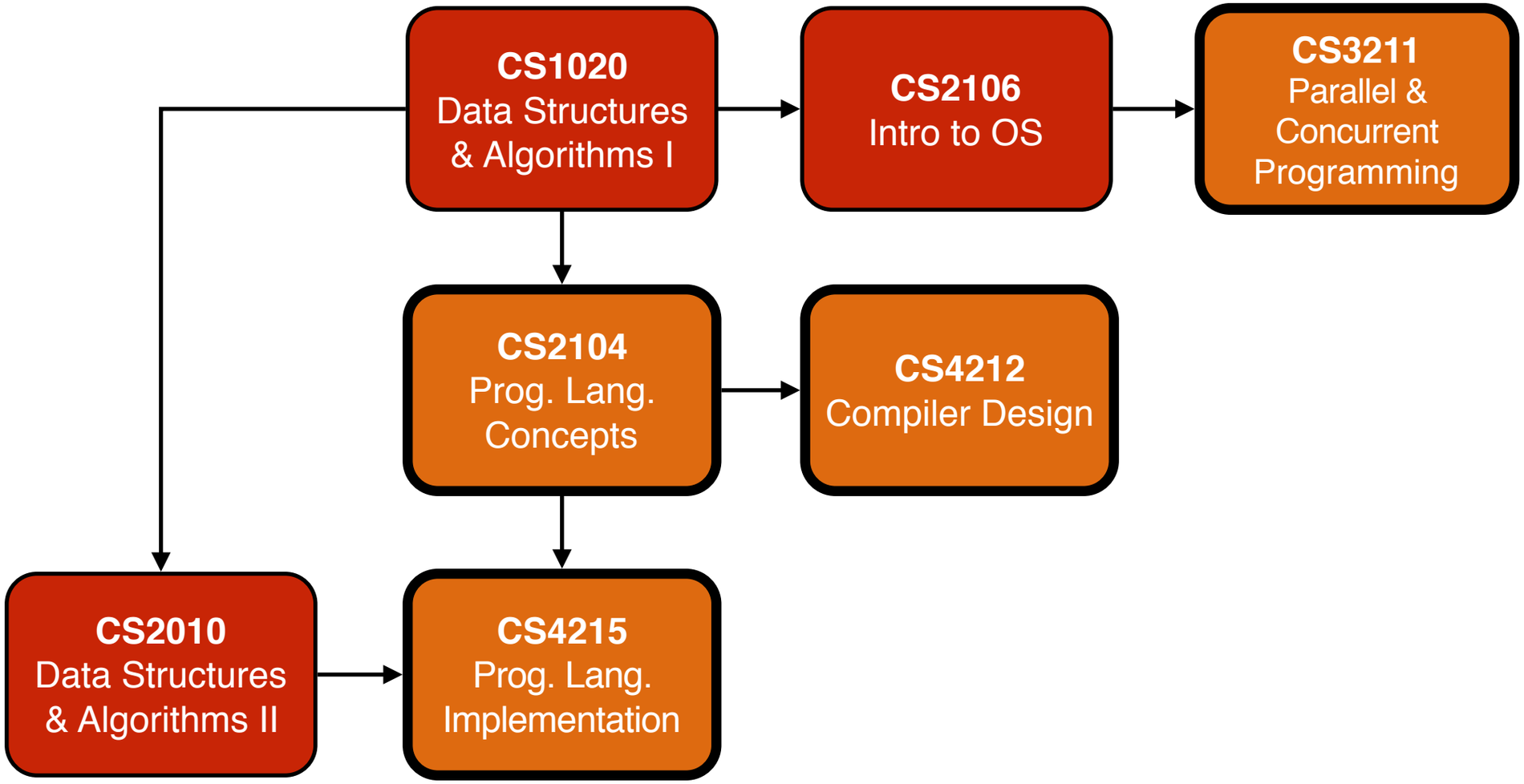
Computer Graphics & Games



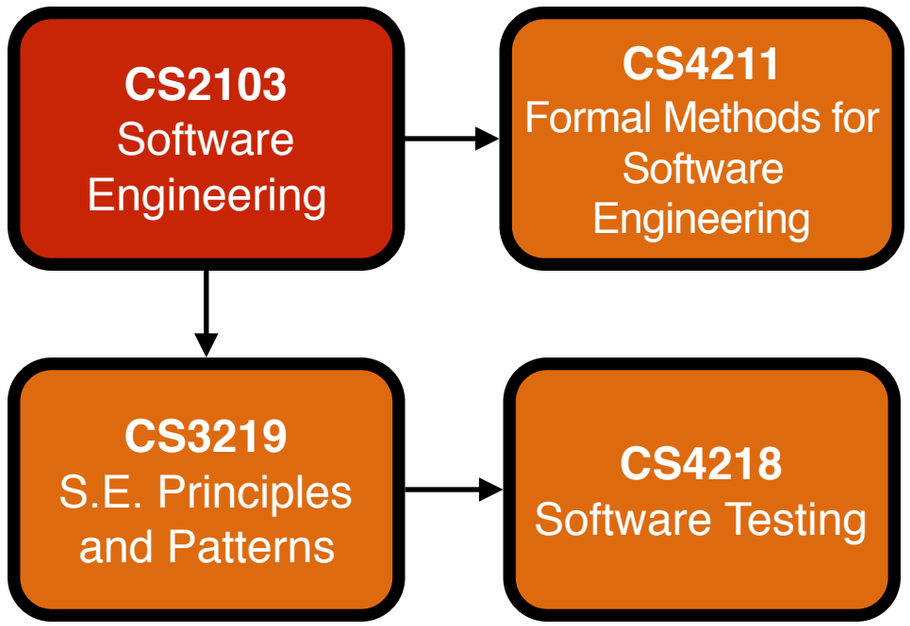
Parallel Computing



Programming Languages



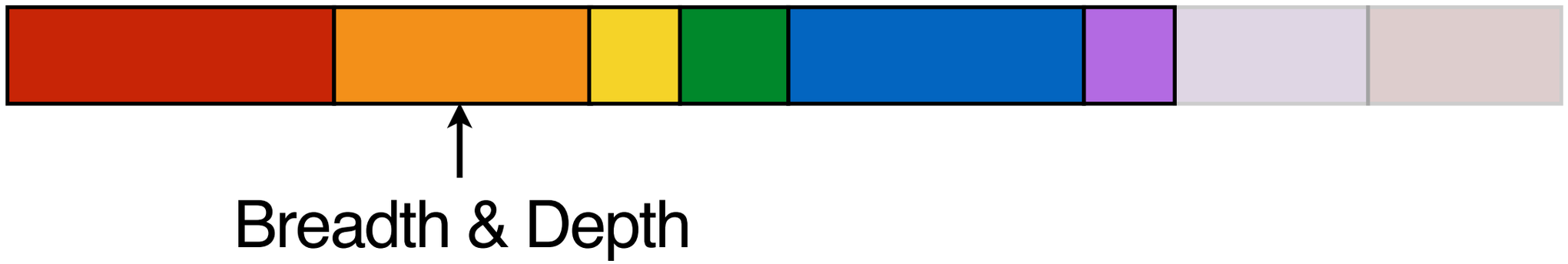
Software Engineering



Focus Area Electives

Each area has a list of electives for students who wants to learn more after meeting the focus area requirements

http://www.comp.nus.edu.sg/undergraduates/cs_cs_focus.html



Complete >= **12** MCs at Level-4000 or above

Satisfy at least one CS Focus Area: by completing three modules in Area Primaries (at least one at Level-4000 or above)

BComp(CS)

Study Planning

(cohort 16/17)

(A Rough Guideline)

Year 1

IS1103 Computing & Society

CS1010 Programming Methodology

CS1020 Data Structures & Algorithms I

CS2100 Computer Organisation

CS1231 Discrete Structures

+ ULR/UE + Math + Sci

“The Basic Foundation”

how to solve basic computing problems through programming; how does a computer work; basic computing math; ethical/legal/social issues on computing

Year 2

CS2101 Communication

CS2103T Software Engineering

CS2105 Intro. to Comp. Networks

CS2106 Intro. to OS

CS2010 Data Structures & Algorithms II

ES2006 Communication

CS3230 D&A of Algorithms

+ ULR/UE + Math + Focus Area Basic

“The CS Core”

how to deal with complex systems and software;
advance algorithms and data structures;
develop soft skills

Year 3 **Industrial Experience** **Team Projects**

+ ULR/UE + Math + Sci + Focus Area Primaries

“The Practical Year”

apply knowledge to projects, internships, NOC;
drilling deeper into focus areas

Year 4 + ULR/UE + Math + Sci + Focus Area

“Choose Your Own Adventure”

round up your training by pursuing advanced modules or projects of your interests

BComp(CS)
Degree Requirement
(cohort 16/17)

Turing Programme

von Neumann Programme

Turing Programme

for students who like to tackle technically challenging (possible fundamental) problems

von Neumann Programme

for students who like to solve complex, real-world, computing problems

BComp(InfoSec)

Degree Requirements

(cohort 16/17)

120 MC
Program
Requirements

20 MC
Unrestricted
Electives

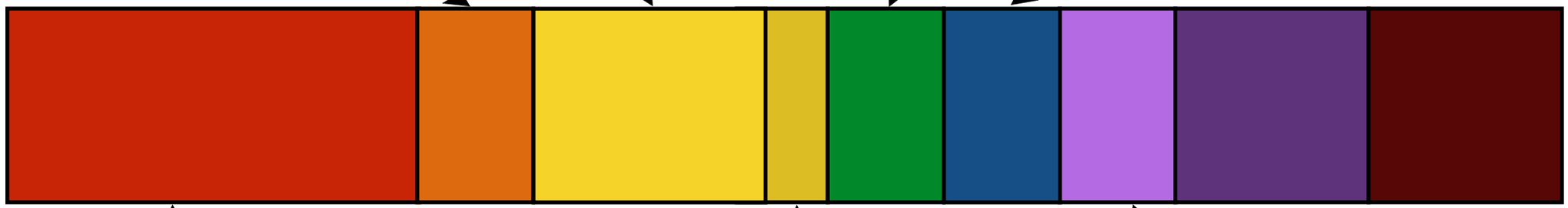
20 MC
Uni-level
Requirements

12 MCs
InfoSec Req.

24 MCs
Electives

12 MCs
Industrial Experience

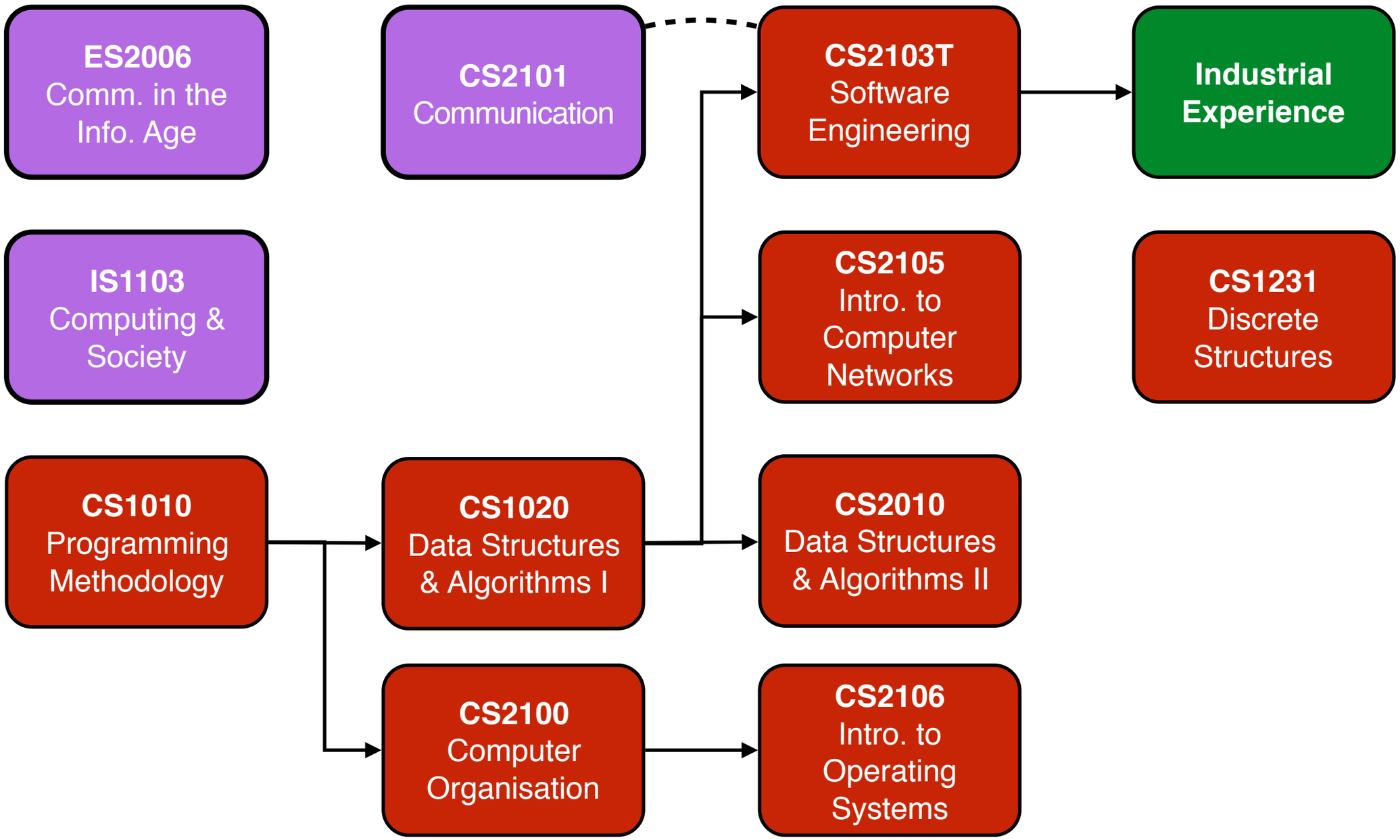
12 MCs
Math

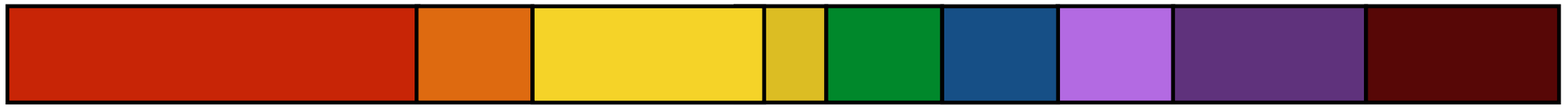


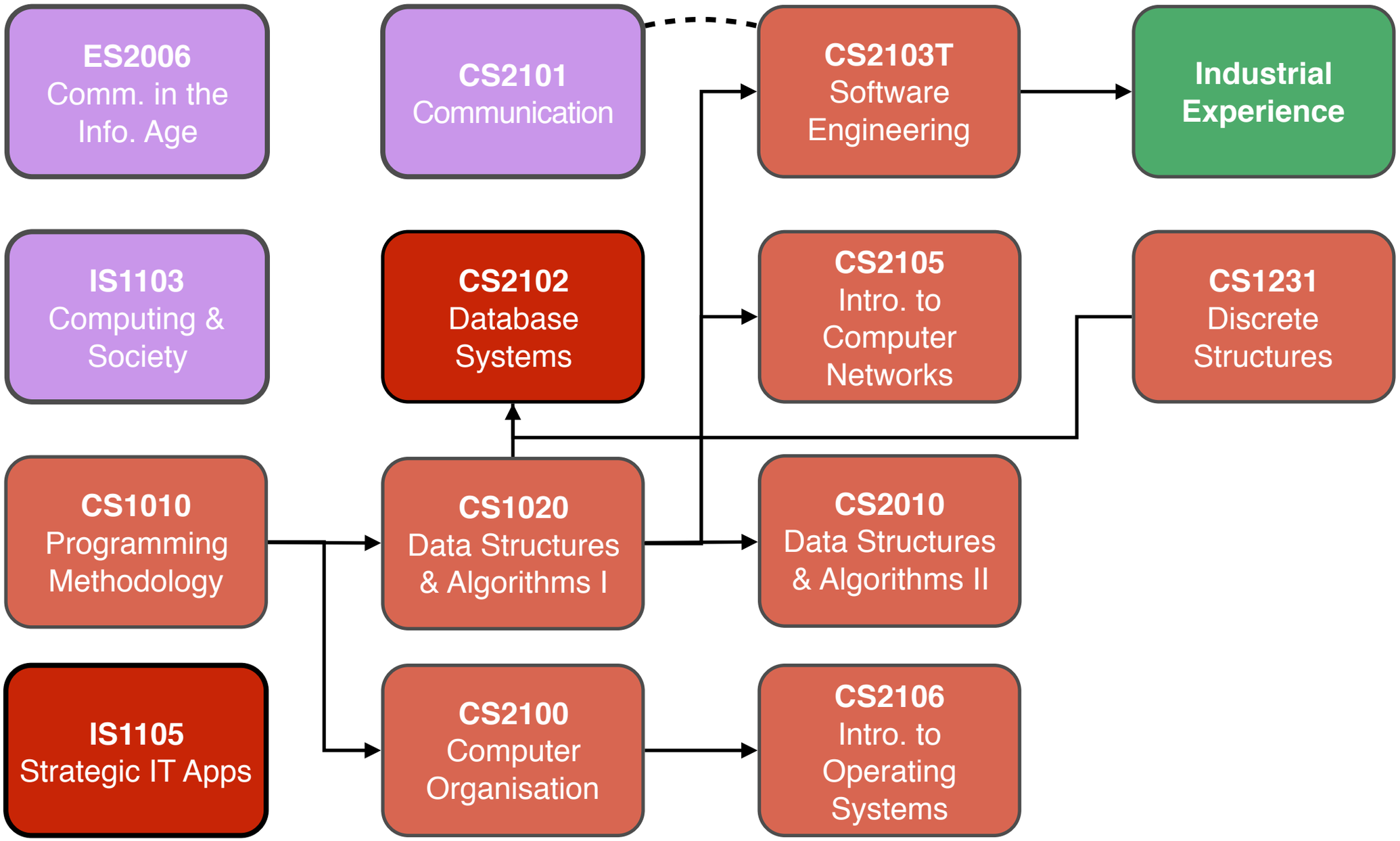
40 MCs
Computing Foundation

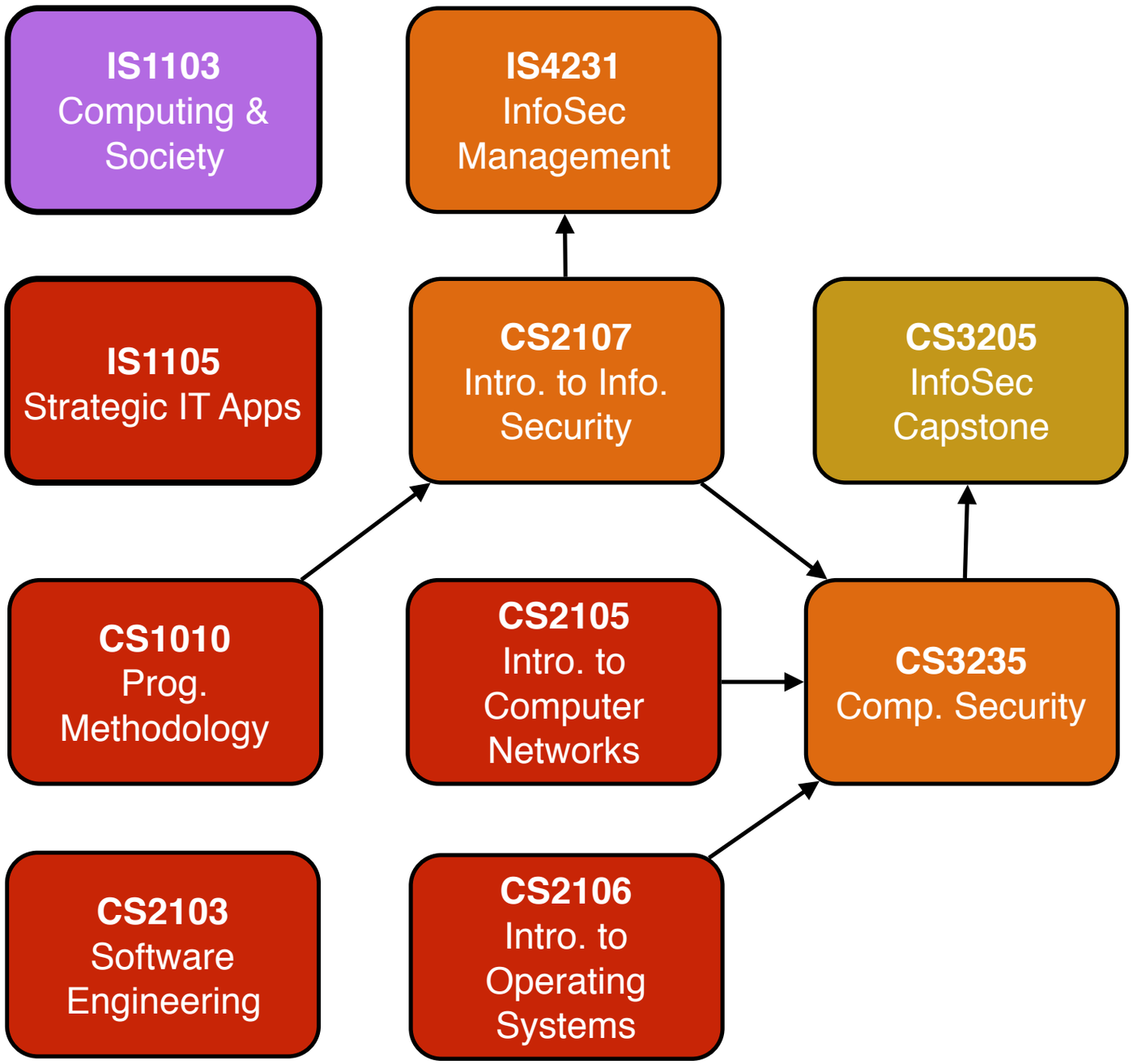
8 MCs
Team Project

12 MCs
IT Professionalism


ES2006
Comm. in the Info. Age
CS2101
Communication
CS2103T
Software Engineering
Industrial Experience
IS1103
Computing & Society
CS2105
Intro. to Computer Networks
CS1231
Discrete Structures
CS1010
Programming Methodology
CS1020
Data Structures & Algorithms I
CS2010
Data Structures & Algorithms II
CS2100
Computer Organisation
CS2106
Intro. to Operating Systems




ES2006
Comm. in the Info. Age
CS2101
Communication
CS2103T
Software Engineering
Industrial Experience
IS1103
Computing & Society
CS2102
Database Systems
CS2105
Intro. to Computer Networks
CS1231
Discrete Structures
CS1010
Programming Methodology
CS1020
Data Structures & Algorithms I
CS2010
Data Structures & Algorithms II
IS1105
Strategic IT Apps
CS2100
Computer Organisation
CS2106
Intro. to Operating Systems


IS1103
Computing & Society
IS4231
InfoSec Management
IS1105
Strategic IT Apps
CS2107
Intro. to Info. Security
CS3205
InfoSec Capstone
CS1010
Prog. Methodology
CS2105
Intro. to Computer Networks
CS3235
Comp. Security
CS2103
Software Engineering
CS2106
Intro. to Operating Systems

IS4233 Legal Aspects of IT

IS4234 Control and Audit of IS

CS4236 Crypto Theory & Practice

CS1231 Discrete Structures

pick 4

\+

any 2 CS/IS/CP modules

IS1103 Computing & Society

IS4231 InfoSec Management

IS4232 InfoSec Management

CS2010 Data Structures & Algorithms II

IS1105 Strategic IT Apps

CS2107 Intro. to Info. Security

CS3205 InfoSec Capstone

CS4238 Computer Security Practices

CS1010 Prog. Methodology

CS2105 Intro. to Computer Networks

CS3235 Comp. Security

CS5231 Network Security

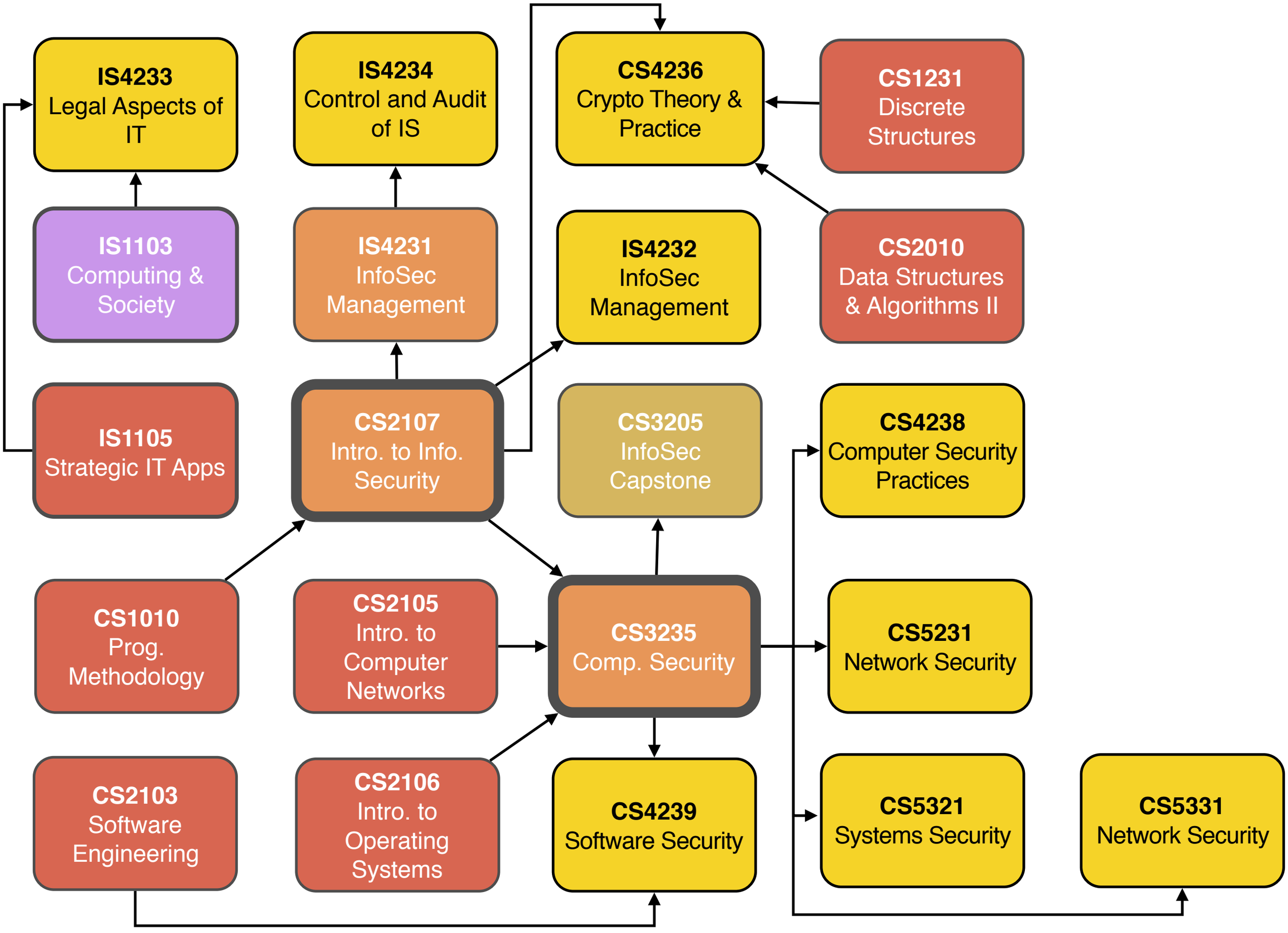
CS2103 Software Engineering

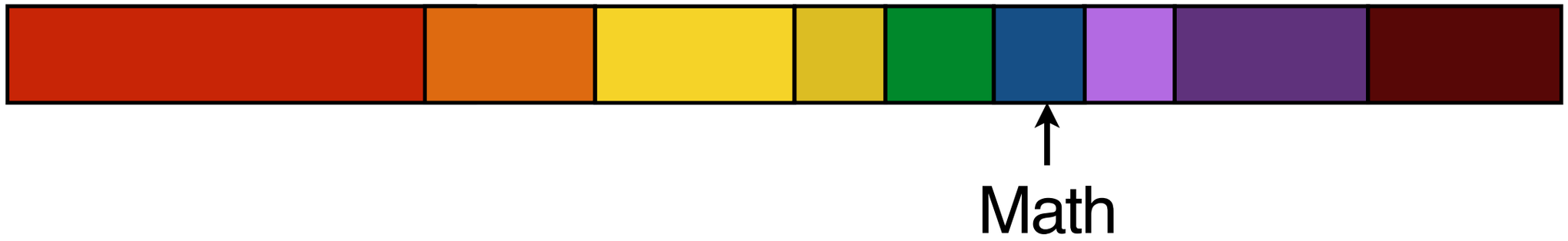
CS2106 Intro. to Operating Systems

CS4239 Software Security

CS5321 Systems Security

CS5331 Network Security


IS4233
Legal Aspects of IT
IS4234
Control and Audit of IS
CS4236
Crypto Theory & Practice
CS1231
Discrete Structures
IS1103
Computing & Society
IS4231
InfoSec Management
IS4232
InfoSec Management
CS2010
Data Structures & Algorithms II
IS1105
Strategic IT Apps
CS2107
Intro. to Info. Security
CS3205
InfoSec Capstone
CS4238
Computer Security Practices
CS1010
Prog. Methodology
CS2105
Intro. to Computer Networks
CS3235
Comp. Security
CS5231
Network Security
CS2103
Software Engineering
CS2106
Intro. to Operating Systems
CS4239
Software Security
CS5321
Systems Security
CS5331
Network Security



MA1301
Introductory Mathematics

or

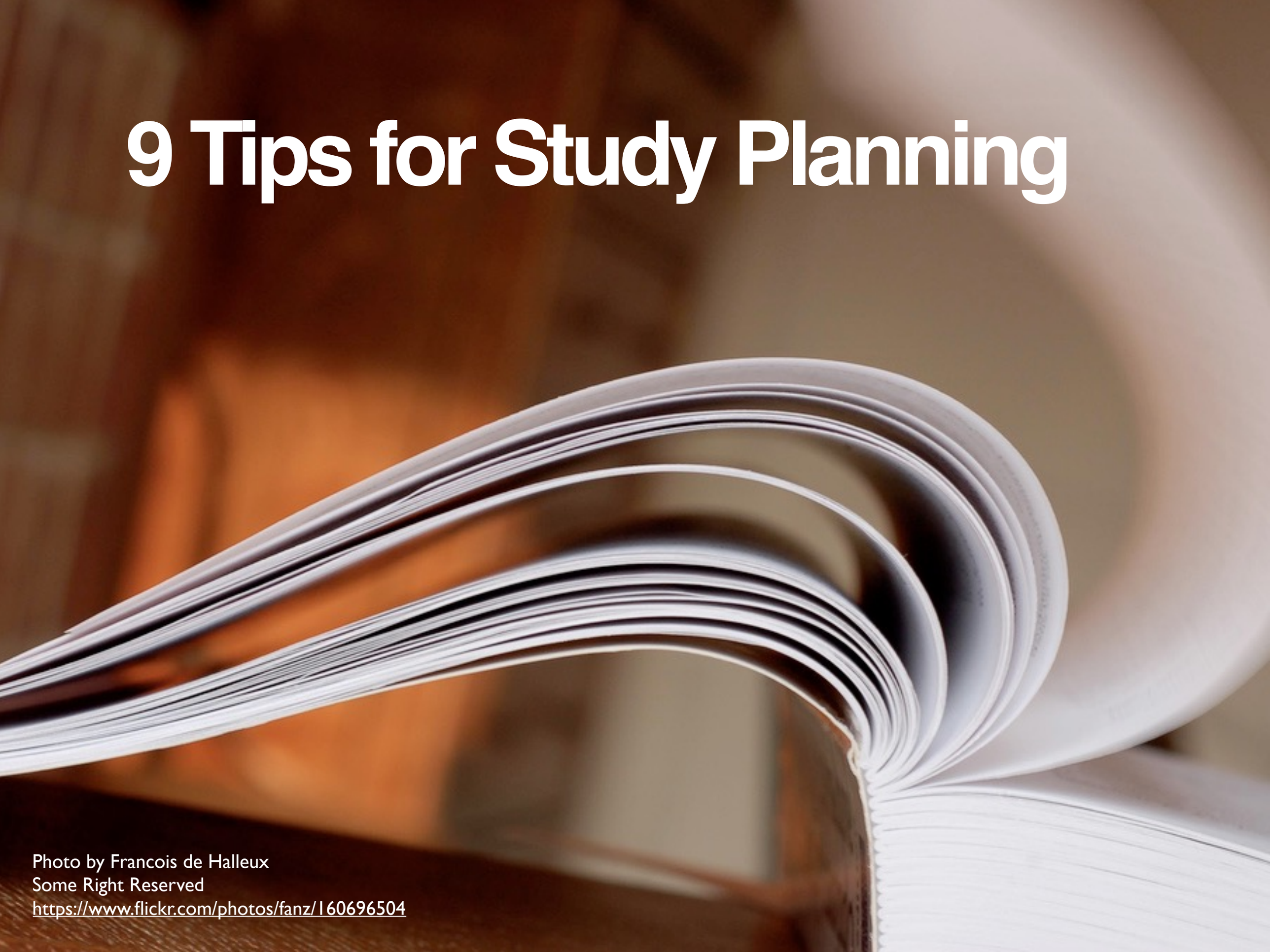
A-Level Mathematics

MA1521
Calculus for Computing

ST2334
Probability and Statistics

MA1101R
Linear Algebra I

9 Tips for Study Planning



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1.
Know Your Degree Requirements (including updates)

2.

Talk To Your Mentor / Academic Advisor / UG Office / Curriculum Chair

3.

Refer to Study Planner Online

4.

Take Lower Level Modules Early

5.

Make Friends

6.

Keep Options Open

7.

Plan Early

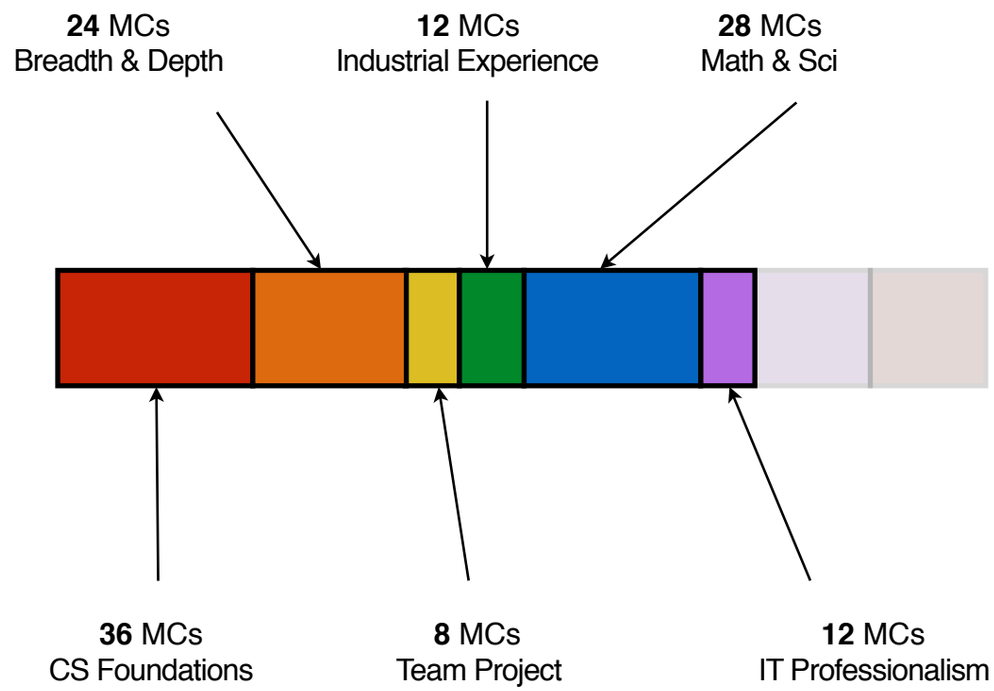
8.

Do Your Internship Early

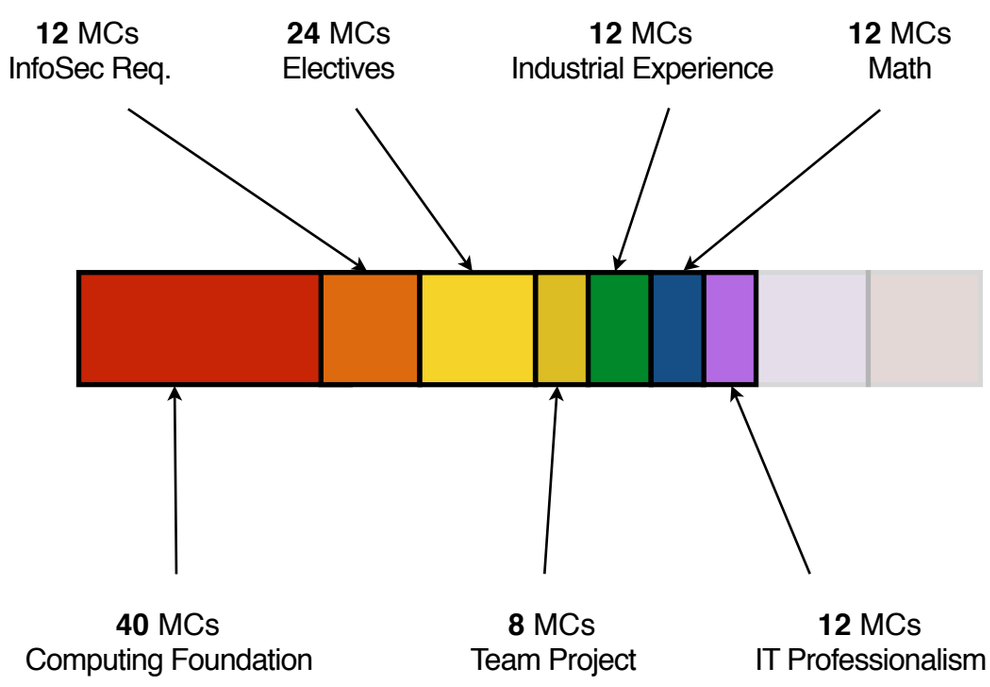
9.

Challenge Yourself

Q&A



BComp(CS)



BComp(InfoSec)