University of Glasgow | School of Computing Science

Introduction to Computing Science Honours

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Honours Head

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Honours Team

Role	Name
Honours head	Gethin Norman
Level 3 head	Angelos Marnerides
Level 4 head	Gerardo Aragon Camarasa
Class head: SE	Tim Storer
Team project coordinator	Tim Storer
Individual project coordinator	Graham McDonald
Internship coordinator	Derek Sommerville
Teaching administrator	Alison Devlin
Class secretary	Gail Reat
Systems support	Douglas Macfarlane

If you have problems with a course, contact the lecturer, the honours or level head, or your adviser of studies

Aims and Objectives

Level 3

- study the breadth of Computing Science
- emphasis on projects and team work

Level 4

- specialise and go deep in certain areas of Computing Science
- emphasis on individual project work

Challenging, but (hopefully) enjoyable

Degree Programmes

7 degree programmes offered

Acronym	Programme
CSH	Computing Science (Honours or MSci)
SEH	Software Engineering (Honours or MSci)
SEYPM	Software Engineering with Year Placement (MSci)
ESEH	Electronics and Software Engineering (Honours or MSci)
CSH+	Computing Science Combined (Honours or MSci)
CS	Computing Science (Designated)
CS+	Computing Science Combined (Designated)

You can switch degree programme for level 3, provided you meet the entry requirements

Degree Programmes - MSci

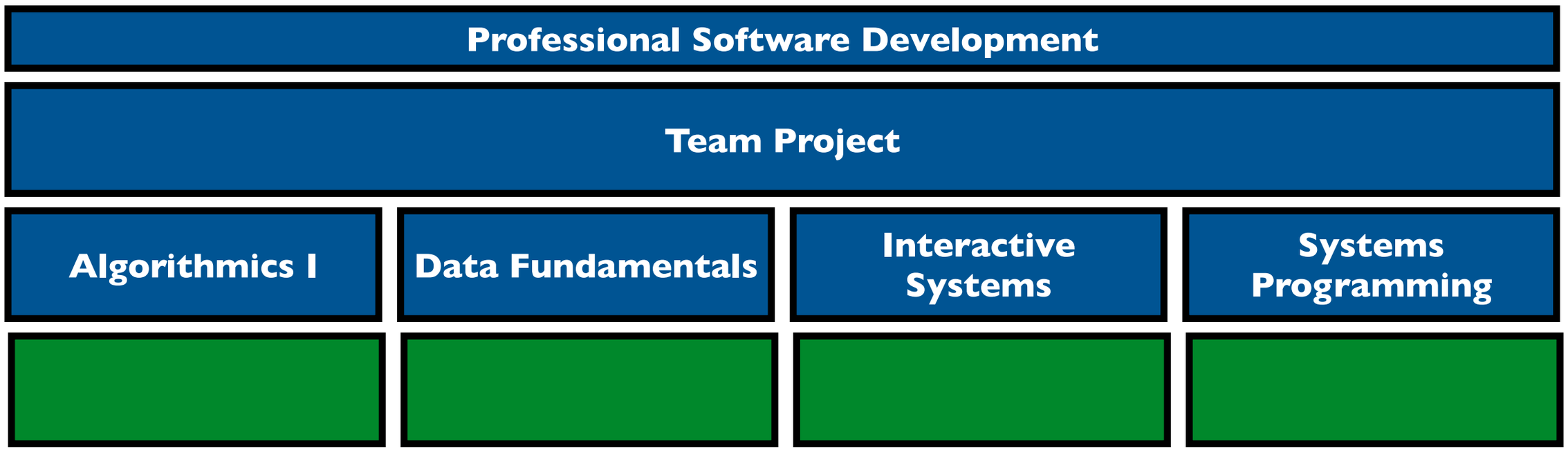
CS, SE or CS+ MSci

- one additional year of study (5 years in total)
  - 80 credit research project in level 5
  - must take Research Methods and Techniques M in level 4
- CS+ MSci only possible with Mathematics or Physics
- progression requires a GPA of at least **12.0** in both level 3 and level 4
  - if you do not meet the requirement, then you must switch to BSc honours
  - progression from level 3 to 4 for BSc honours is **9.0**
- you must also meet requirements at the end of level 2 (see later)
- see class guide for more detail

Software Engineering with Year Placement MSci

- this is different: still five years, but year 4 is a work placement

Computing Science - CSH



Our standard Computing Science degree

- breadth of coverage in semester 1 and options in semester 2
- 30 credit team project in level 3
- 40 credit individual project in level 4
- also must take PSI in level 4 and one security course in level 3 or 4 to ensure accreditation from British Computer Society and Chartered Institute for IT for IT

Computing Science - CSH

Option to choose a strand (specialism):

- **data management**
- **human computer interaction**
- **information security**
- **parallel and distributed systems**
- **theoretical computer science**

Each strand has requirements on optional courses

- for each strand you still have some choices available
- level 4 and 5 individual project must also be in the area of the strand
- if you chose a strand it will be included in your transcript
- I have included these details in the pdf of these slides

Data Management (choose at least 4)

level 3

Professional Software Development PSD(H)	Algorithmics I ALGI(H)	Data Fundamentals DF(H)	Interactive Systems IS(H)	Systems Progamming SP(H)	Team Project TP(H)
Professional Software Development PSD(H)	**Database Systems DB(H)**	*Text as Data TD (H)*	*Robotic Foundations RF(H) or Web Science WSci (H)*		Team Project TP(H)

level 4 and level 5

Artificial Intelligence AI(H)	Machine Learning ML(H)	Computer Vision Methods and Applications CVMA(H)			Professional Skills and Issues PSI(H)	Individual Project
Recommender Systems RS(H)	Big Data BD(H)	Information Retrieval IR(H)	Deep Learning DL(M)	*Text as Data TD (H)*	*Robotic Foundations RF(H) or Web Science WSci (H)*	Individual Project

Human Computer Interaction (choose at least 3)

level 3

Professional Software Development PSD(H)	Algorithmics I ALGI(H)	Data Fundamentals DF(H)	**Interactive Systems IS(H)**	Systems Progamming SP(H)	Team Project TP(H)
Professional Software Development PSD(H)	*Human Centred Security HCS(M)*	*Mobile Human Computer Interaction MobHCI(H)*	*Conversational Interfaces CI(M)*		Team Project TP(H)

level 4 and level 5

Human Computer Interaction HCI(H)	Computational Social Intelligence CSI(H)			Professional Skills and Issues PSI(H)	Individual Project
Human Centred Security HCS(M)	*Mobile Human Computer Interaction MobHCI(H)*	*Conversational Interfaces CI(M)*			Individual Project

Information Security (choose at least 4)

level 3	Professional Software Development PSD(H)	Algorithmics I ALGI(H)	Data Fundamentals DF(H)	Interactive Systems IS(H)	Systems Progamming SP(H)	Team Project TP(H)
	Professional Software Development PSD(H)	**Cyber Security Fundamentals CSF(H)**		*Cyber Security Forensics CSFo(M)*	*Human Centred Security HCS(M)*	Team Project TP(H)
level 4 and level 5					Professional Skills and Issues PSI(H)	Individual Project
	Cryptography and Secure Development CSD(M)	Safety Critical Systems SCS(H)	Secured Software Engineering SSE(M)	*Cyber Security Forensics CSFo(M)*	*Human Centred Security HCS(M)*	Individual Project

Parallel and Distributed Systems (choose at least 3)

level 3

Professional Software Development PSD(H)	Algorithmics I ALGI(H)	Data Fundamentals DF(H)	Interactive Systems IS(H)	Systems Progamming SP(H)	Team Project TP(H)
Professional Software Development PSD(H)	**Network Systems NS(H)**	**Operating Systems OS(H)**			Team Project TP(H)

level 4 and level 5

Advanced Software Engineering Practices ASEP(H)	Advanced Networked Systems ANS(H)	Computer Architecture CA(H)	Functional Programming FP(H)		Professional Skills and Issues PSI(H)	Individual Project
Advanced Software Engineering Practices ASEP(H)	Advanced System Programming ASP(H)	Advanced Network Comms. ANC(H)	Safety Critical Systems SCS(H)	Secured Software Engineering SSE(M)	Distributed Parallel Technologies DPT(H)	Individual Project

Theoretical Computer Science (choose at least 4)

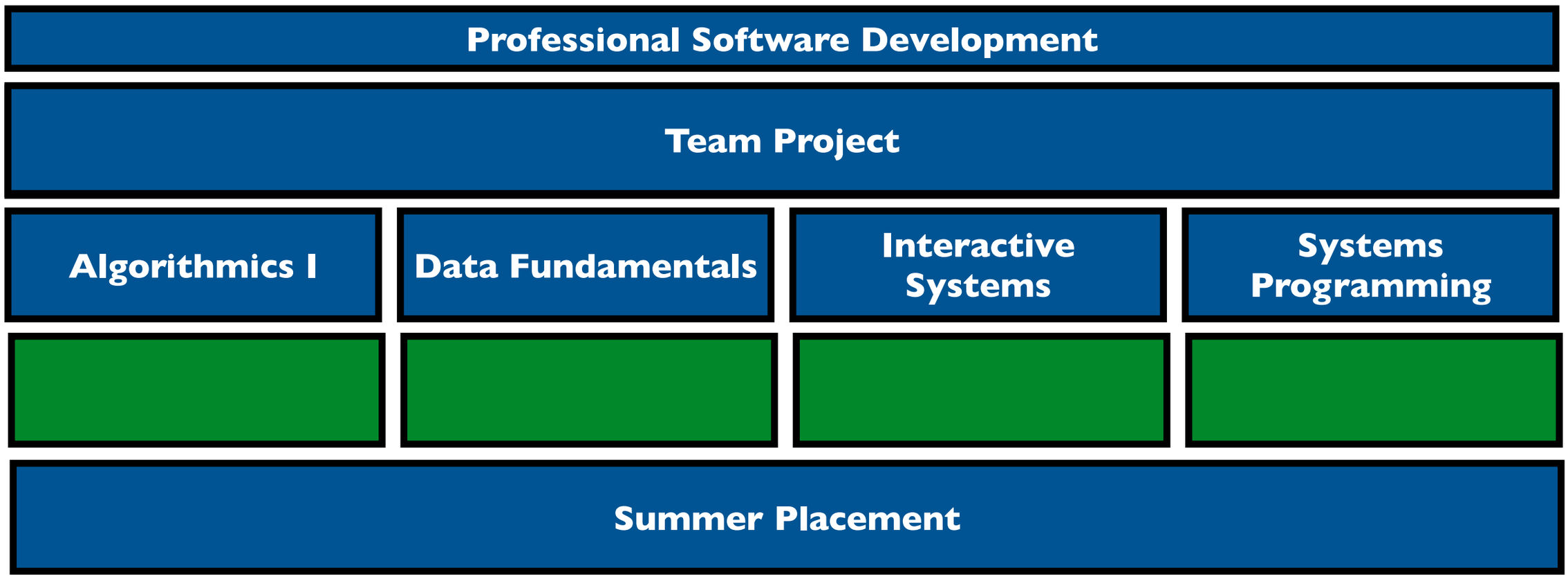
level 3

Professional Software Development PSD(H)	**Algorithmics I ALGI(H)**	Data Fundamentals DF(H)	Interactive Systems IS(H)	Systems Progamming SP(H)	Team Project TP(H)
Professional Software Development PSD(H)	*Constraint Programming CP(M)*	*Programming Languages PL(H)*	*Modelling Reactive Systems MRS(H)*	*Theory of Computation TC(H)*	Team Project TP(H)

level 4 and level 5

Algorithmics II ALGII(H)	Functional Programming FP(H)	Machine Learning ML(H)		Professional Skills and Issues PSI(H)	Individual Project
Constraint Programming CP(M)	*Programming Languages PL(H)*	*Modelling Reactive Systems MRS(H)*	*Theory of Computation TC(H)*		Individual Project

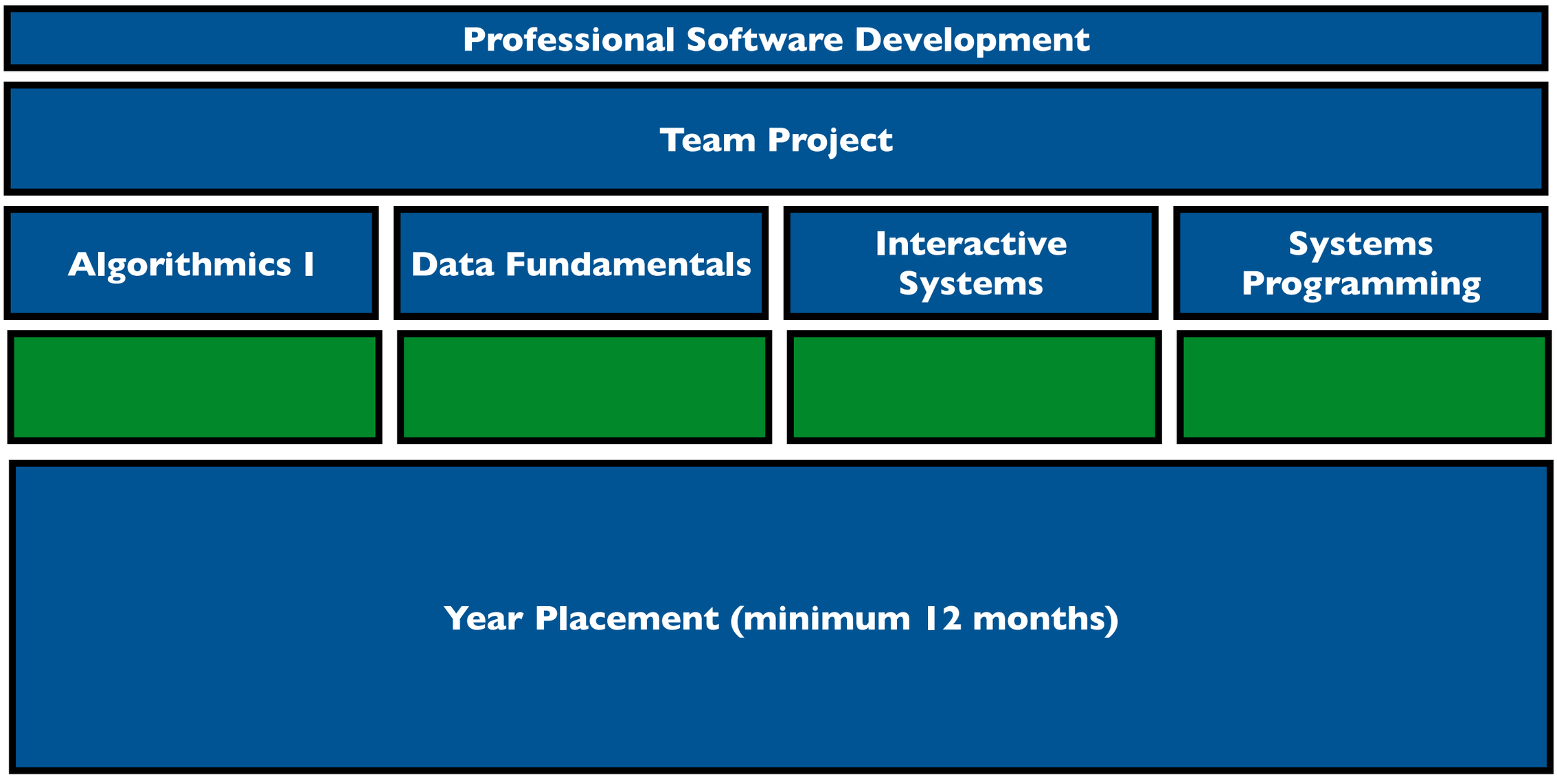
Software Engineering - SE3H



Software engineering focus

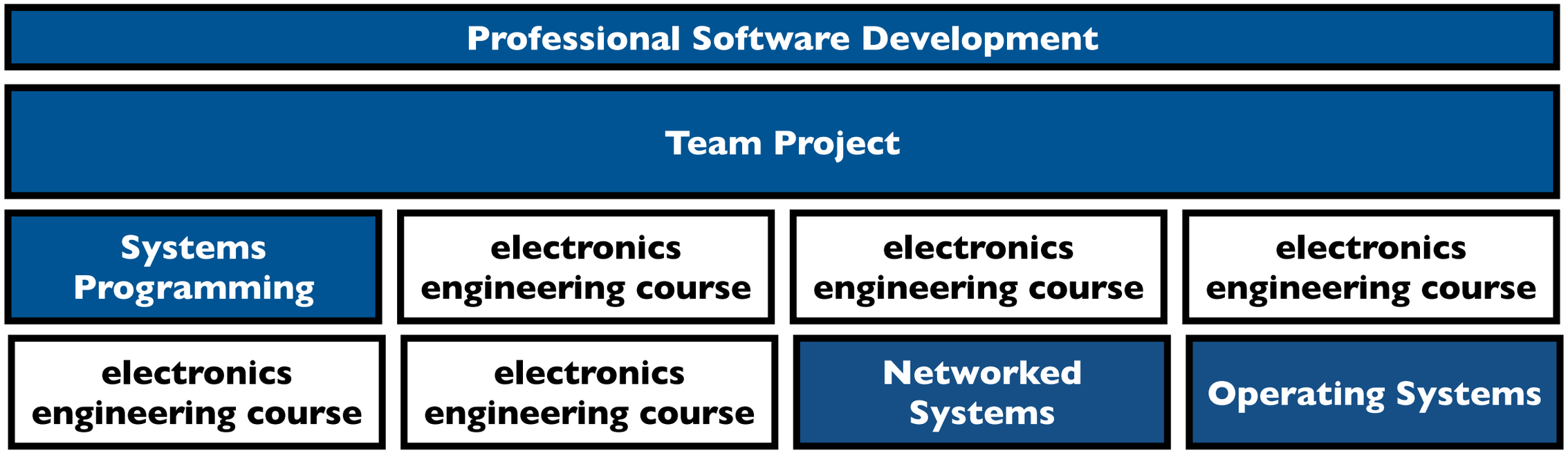
- 40 credit individual project in level 4
- again must take PSI and one security course to ensure accreditation
- in level 4 one of ASEP or SSE
- the strand is software engineering

SE with Year Placement (MSci) -SEYP3H



- 40 credit individual project in level 5
- some requirements on courses in year 5 (after year placement)
- again software engineering is the strand

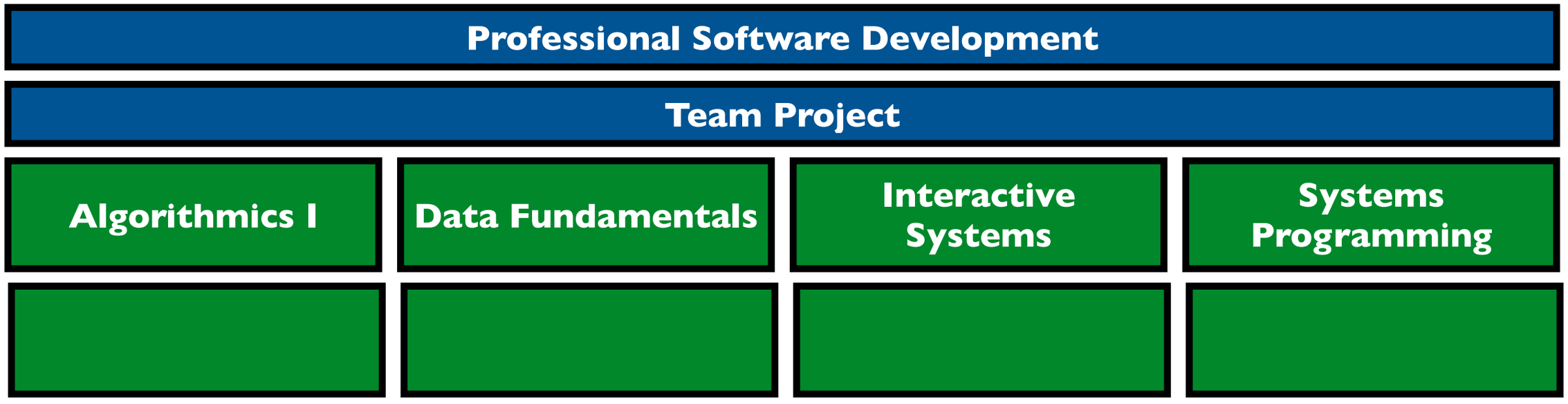
Electronics & Software Engineering - ESE3H



Electronics and Software Engineering focus

- 50 credits of Electronics courses, building on level 2
- again must take PSI in level 4

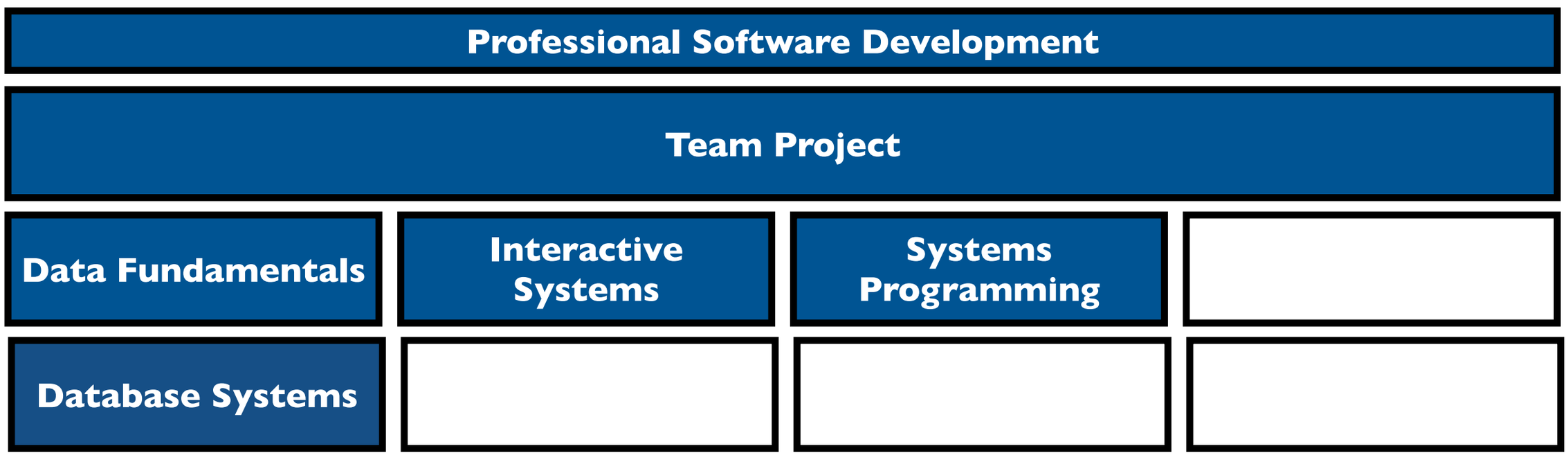
Combined Honours - CS3H+



Computing Science plus one other subject

- 60 credits in computing science
- PSD and TP both 10 credits (leaving 40 credits available)
- choose at least two of the four first semester (10 credit) options
- in second semester choose remaining course(s) from the optional courses (subject to timetabling constraints and prerequisites)
- 20 credit individual project in level 4

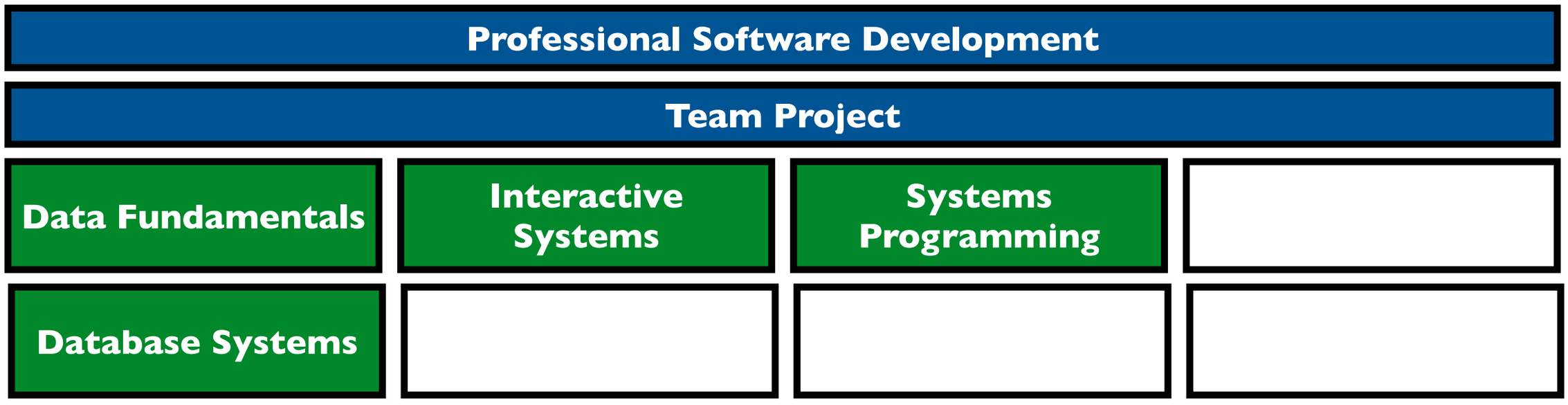
Designated Degree - CS3



A subset of the Computing Science degree, for those students not progressing to Honours

- 40 credits in other non-computing subjects

Combined Designated Degree - CS3+



A subset of the Computing Science degree, for those students not progressing to Honours

- choose any two of the above courses
- 40 credits in other non-computing subjects
- meet requirements for designated degree in other subject

Preparing for Level 3

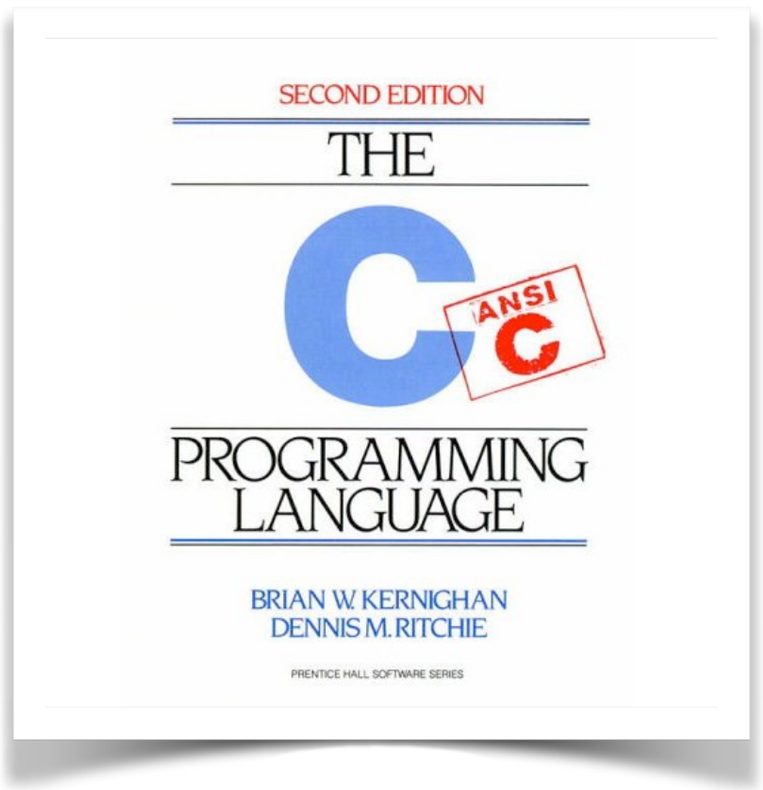
Level 3 is an intense course - be prepared

Revise the level 1 and level 2 material

Systems Programming requires C programming

For the majority who will take Systems Programming:

- teach yourself during the summer vacation
- refresher in Systems Programming course
- required for a number of other courses including Operating Systems and Network Systems



Preparing for Level 3

Practical work in level 3 is undertaken on Unix (Linux) workstations

An on-line course in using Linux will be available on moodle as well as a number of laboratory sessions during the first week of the semester 1

Further information on preparing for Level 3 is available on the general level 2 moodle page

Entry Requirements

To be admitted to level 3 you must:

- meet the entry requirements set by the School of Computing Science
- meet the progression requirements set by the College of Science and Engineering

Entry Requirements: Computing Science

Entry Requirements	Course
• **Guaranteed:** 15.0 GPA or better over all Level 2 Computing Science courses **at first attempt** • **Discretion:** 12.0 GPA or better over all Level 2 Computing Science courses **at first attempt**	CSH SEH SEYPM
• **Guaranteed:** 15.0 GPA or better over the 5 pre-requisite Level 2 Computing Science courses **at first attempt** • **Discretion:** 12.0 GPA or better over the 5 pre-requisite Level 2 Computing Science courses **at first attempt** • fulfil requirements from School of Engineering	ESEH
• **Guaranteed:** 15.0 GPA or better over 40 credits of Level 2 Computing Science courses **at first attempt** • **Discretion:** 12.0 GPA or better over 40 credits of Level 2 Computing Science courses **at first attempt** • fulfil the requirements for the other subject	CSH+
• **Required:** 9.0 GPA over level 2 CS courses (no first attempt)	CS CS+

Entry Requirements: Computing Science

"all Level 2 computing science courses" means:

- ADS2, AF2, JP2, NOSE2, OOSE2 and WAD2
- (does not include CS1F or CS1S)

From ESEH you can switch to CSH

- see course handbook for the progression requirements

Entry Requirements: College

Generic Undergraduate Regulations:

15.1 In order to obtain entry to an Honours or Integrated Masters degree programme at the end of the second year of full-time study[5], a candidate must:

a) achieve 240 credits at levels 1 and 2 with a grade point average of at least 9; at least 140 of these credits must be derived from the list of recognised courses for the degree; and

b) achieve a grade D or better in 200 credits; and

c) achieve a minimum of 40 credits at level 2 at a grade point average of 12 in the subject of the Honours programme[6] ***at the first attempt***: and

d) meet any further requirements set out in the degree's supplementary regulations; and

e) meet any additional requirements set by the School or Schools in which the candidate is applying for entry to the Honours or Integrated Masters programme.

Supplementary BSc regulations:

Generic Undergraduate Regulation **§15.1** shall apply with the following additional requirement.

i) The candidate must have completed an additional 20 credits at level 2, bringing the total requirement for level 2 credits to 60.

Details in the University Calendar

Honours students in Science must achieve a grade point average of 12.0 over 60 credits of Level 2 courses in the subject of their Honours Programme *at the first attempt* – you *cannot* progress if you do not meet this requirement

Entry Requirements: College

Note: average of 11.9 does not meet the requirements

Also in the small print for honours:

- achieve D3 or better in 200 credits across levels 1 and 2
- (so no more than 40 credits below D3)
- GPA of 9.0 or better across 240 credits in levels 1 and 2
- (at least 140 of these credits must be derived from the list of recognised courses for the degree)
- this means you need 240 credits

Note: no “at first attempt” with these requirements so can be met after resits

Entry Requirements: College

Additional requirements for MSci after levels 1 and 2

- 240 credits, with a GPA of at least 12.0
- 140 credits in Science with a GPA of at least 12.0
- 60 credits at level 2 or above in Science with a GPA of at least 15.0

To switch to MSci at a later time you need to meet these requirements

If you do not meet these requirements, but do meet the previous requirements you can change you plan to BSc Honours to progress to honours

- ask your advisor or me to make this change

Enrolment

Enrol in Level 3 programmes via MyCampus

- if you want to switch degree programmes, and meet entry requirements, ask your advisor of studies to make the change in MyCampus
- if you are ill, or have other special circumstances that have affected your level 2 performance, you **must** report these circumstances on MyCampus within seven days of the affected assessment

We cannot guarantee any special circumstances not submitted within seven days are into account

Copies of these slides are on Moodle under “Level 2 General Information” and “Level 3 General Information”

Next: Internships