

INITIATIVE ON MODULARISATION & SEMESTERISATION

POLICY DOCUMENT

A standardised timetabling framework for the UCD modularised curriculum

Version 3.0 Philip Nolan 12th May 2005

1 Scope and status of this document

This document outlines the preferred option for a common timetabling framework for the new modular curriculum at UCD. It incorporates the responses received to the first draft circulated on 21st February 2005 and a substantial amount of additional development by Myles Rath.

The document addresses two major policy issues:

- the need for guidance on the range of class contact time appropriate for a 5 ECTS credit module;
- the value and necessity of introducing a standardised 'slotted' timetable framework for all programmes at UCD, without which student opportunities would be greatly limited by timetable conflicts.

The document goes on to describe the proposed approach to implementing the common timetabling framework. The framework itself may change in the coming month as required by the implementation process, but the general principles will remain as presented here.

A team has been put in place, under the leadership of Michael Sinnott of the Management Services Unit (MSU) to implement a University-wide timetable according to the framework outlined in this document, and comments should be directed to him at Michael.Sinnott@ucd.ie ☎7161634.

2 Principles

- 2.1 The ECTS system defines the student workload per credit (20-25 hours per credit¹) but does not prescribe how this should be divided between classes, assignments and independent study. However, the development of a timetable requires some guidance as to the class contact hours associated with each module.

¹ The EU norm is for a full-time semester load is based on 40-50 hours of student effort per week over a 15 week semester (which includes teaching, revision and assessment time). This gives a total student effort of 600-750 hours for a semester. The successful completion of a semester leads to the award of 30 ECTS credits, so that 1 ECTS credit corresponds to 20-25 hours of student effort, and 5 ECTS credits should require 100-125 hours student effort. Given that it is unlikely and even undesirable that students will work more than 40 hours per week, UCD will adopt the norm that 1 ECTS credit corresponds to 20 hours student effort so that 5 ECTS credits requires 100 hours student effort.

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It is a fundamental principle that learning depends upon the activities and engagement of the learner, and the role of the teacher is to facilitate successful learning activities and behaviours. It is important in curricular design to provide the right amount of learning in the classroom, yet leave space for independent learning on the part of the student. The proposals contained in this policy document attempt to strike this balance

Internationally, the following activities are considered equivalent on the basis of student effort:

- 1 hour per week lecture, tutorial or seminar which requires an additional 2 hours of student effort outside the classroom;
- 2 hours laboratory or practical work, where 1 hour work is expected outside the laboratory to complete an assignment or report, or review the material covered in the session;
- 3 hours per week laboratory or practical work, where no additional work outside the laboratory is required on assignments, reports or reflection.

A 5 ECTS credit module will typically comprise between 24 and 36 hours of lectures, seminars or tutorials (depending upon the amount of independent activity expected of the student) or the equivalent of 24 to 36 hours where classes and practicals/laboratory sessions are combined. A 5 ECTS credit module should not exceed 36 hours of lectures, seminars or tutorials, or their equivalent².

The following class contact hours would, therefore, be acceptable for an individual 5-credit module:

- 24-36 hours of lectures, seminars or tutorials;
- 24-30 hours of lectures plus 6 tutorial, practical or laboratory sessions;
- 18-24 hours of lectures plus 12 tutorial, practical or laboratory sessions.

However, it should be recognised that where most or all modules in a programme use the upper limit of class contact time, there is a high risk of overloading the student. A student pursuing 6 modules each requiring attendance at 36 lectures will be in the classroom 18 hours per week, while a student pursuing 6 modules with 24 lectures and 12 2-3 hour practicals is occupied 24-30 hours per week³. These workloads will not leave sufficient time for independent learning or for essays assignments and projects unless the nature of the course requires a limited amount of private study. This would not be appropriate for more advanced modules especially, and Programme Boards will be required to monitor the total workload expected of students and take appropriate action.

Where module designers are considering developing with 36 hours of lectures, there may be educational advantages and there are certainly logistical advantages in holding the number of lectures at 30, and this approach is encouraged. Similarly, where courses involve extensive

² A module with 36 hours of lectures, each requiring 2 hours independent study, corresponds to 108 hours student effort. A module with 24 hours lectures and 12x3 hour practicals also corresponds to 108 hours student effort.

³ A programme with 6 modules each requiring 108 hours student effort over 15 weeks requires a student to work a 42 hour week

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laboratory work, consideration could be given to reducing the lecture hours in some 5-credit modules to 18 hours.

2.2 A standardised approach to timetabling should distinguish between:

- *whole-class sessions*, that is, times when the whole class must be available, usually for a lecture, but also where the entire class is broken into number of smaller groups in parallel session;
- *multiple offerings*, that is, tutorial, small-group, laboratory or practical sessions which are offered on multiple occasions over a week or fortnight, with students attending in small groups.

2.3 The best approach to maximise the options available to students is to:

- timetable whole-class sessions in time-slots which are standardised across the entire university;
- deliver multiple offerings on as many occasions as possible during the week, and allow the student to register to the session which suits their lecture timetable.

3 Implementation

3.1 The core requirement for all modules is to provide two separate one-hour whole-class meetings. The first standard option, A, fixes the times of the whole class meetings as 9 a.m. Monday and 9 a.m. Wednesday

	M	T	W	T	F
08:00					
09:00	A1		A2		
10:00					
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					

3.2 Twenty independent 2-hour options (A-U) can be offered. Note that:

- the week is partitioned, so that activities in difference segments of the week are linked
 - Monday morning, Tuesday afternoon, Wednesday morning, Thursday afternoon and Friday morning are linked
 - Monday afternoon, Tuesday morning, Wednesday afternoon, Thursday morning and Friday afternoon are linked
 - The objective is to facilitate mobility between the different campuses of UCD, and future mobility between institutions within Dublin;

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	M	T	W	T	F
08:00					
09:00	A1	D1	A2	D2	S2
10:00	B1	C1	B2	C2 D3*	R2
11:00	E1	G1	F2	H2	T2
12:00	F1	H1	E2	G2 H3*	U2
13:00	J1	K1	J2	S1	K2
14:00	L1	M1	R1	M2	L2
15:00	N1	Q1	T1	O2	P2
16:00	P1	O1	U1	Q2	N2
17:00					

- Wednesday afternoon can be lightly timetabled to facilitate co-curricular activities and off-site visits. (This has the by product of removing three of the 2-hour options from the schedule).

3.3 Where a module requires three hours whole-class contact, it is most often required as three separate hours. This can be provided, but the third hour of the module will clash with another timetable option. A student taking a 36-hour module using timetable slots A1, A2 and A3 will not be able to take a module timetabled into option R.

	M	T	W	T	F
08:00					
09:00	A1		A2		
10:00					R2 A3
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					

3.4 Similarly, a student taking a 36-hour module using timetable slots B1, B2 and B3 will not be able to take a module scheduled into option S.

	M	T	W	T	F
08:00					
09:00	A1		A2		S2 B3
10:00	B1		B2		R2 A3
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					

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- 3.5 The number of timetable clashes is considerably reduced if 30-hour (rather than 36-hour) modules are used. A and B can share the 10 am Friday slot, using it on alternate weeks. This is indicated as AB3. A student taking 30-hour modules timetabled in A and B respectively does not have the option to take modules timetabled to option R, but those timetabled in option S remain open.

	M	T	W	T	F
08:00					
09:00	A1		A2		S2 B3
10:00	B1		B2		R2 A3 AB3
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					

- 3.6 A number of programmes require modules with 3 hours class contact as one hour and a separate 2-hour block. This can be provided (time slot A3*) but this time at the expense of a clash with timetable option B. One programme requires modules with 3 hours class contact per week as a single block. This is dealt with under 3.15 below.

	M	T	W	T	F
08:00					
09:00	A1		A2		S2 B3
10:00	B1 A3*		B2		R2 A3 AB3
11:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					

- 3.7 These principles can be extended to the remainder of the timetable.

	M	T	W	T	F
08:00					
09:00	A1	D1 C3*	A2 B3*	D2	S2 B3
10:00	B1 A3*	C1	B2	C2 D3*	R2 A3 AB3
11:00	E1	G1	F2	H2	T2 M3 MO3
12:00	F1 E3*	H1 G3*	E2 F3*	G2 H3*	U2 O3
13:00	J1	K1	J2	S1	K2 H3
14:00	L1 C3 CD3	M1 E3 EF3	R1D3	M2 F3	L2 G3 GH3
15:00	N1	Q1 O3*	T1	O2 Q3*	P2
16:00	P1 N3*	O1	U1	Q2	N2 P3*
17:00					

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3.8 Furthermore, 24-hour modules that require teaching as 2-hour blocks could timetable to A1 and A3*, also at the expense of a clash with timetable option B

3.9 The following modes are available for whole-class sessions using timetable option A, and have been given codes for later use

CODE	SLOTS USED	PROVISION
A18-1	A1 A2 on weeks 1,3,5....11	18 hours, 1 or 2 separate hours per week
A24-1	A1, A2	24 hours, 2 separate hours per week
A30-1	A1, A2 AB3 on weeks 1,3,5....11	30 hours, 2 or 3 separate hours per week
A36-1	A1, A2, A3	36 hours, 3 separate hours per week
A24-2	A1, A3*	24 hours, 2-hour block each week
A30-2	A1, A2 A3* on weeks 1,3,5....11	30 hours, 2 separate hours one week, 1 hour plus 2-hour block on alternate weeks
A36-2	A1, A2, A3*	36 hours, 1 hour plus 2-hour block

3.10 Similar modes are available for timetable option B

CODE	SLOTS USED	PROVISION
B18-1	B1 on weeks 2,4,6....12 B2	18 hours, 1 or 2 separate hours per week
B24-1	B1, B2	24 hours, 2 separate hours per week
B30-1	B1, B2 AB3 on weeks	30 hours, 2 or 3 separate hours per week

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	2,4,5....12	
B36-1	B1, B2, B3	36 hours, 3 separate hours per week
B24-2	B1, B3*	24 hours, 2-hour block each week
B30-2	B1, B2 B3* on weeks 2,4,6....12	30 hours, 2 separate hours one week, 1 hour plus 2-hour block on alternate weeks
B36-2	B1, B2, B3*	36 hours, 1 hour plus 2-hour block

- 3.11 A compatibility table can be constructed to record which combinations are compatible and which are not. This is given below just comparing the different modes in which options A and B can be used. This exercise can be extended to provide an incompatibility list for all possible options.

	A18-1	A24-1	A30-1	A36-1	A24-2	A30-2	A36-2
B18-1	OK	OK	OK	OK	CLASH	OK	CLASH
B24-1	OK	OK	OK	OK	CLASH	CLASH	CLASH
B30-1	OK	OK	OK	OK	CLASH	CLASH	CLASH
B36-1	OK	OK	OK	OK	CLASH	CLASH	CLASH
B24-2	CLASH	CLASH	CLASH	CLASH	OK	CLASH	CLASH
B30-2	OK	CLASH	CLASH	CLASH	CLASH	CLASH	CLASH
B36-2	CLASH	CLASH	CLASH	CLASH	CLASH	CLASH	CLASH

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3.12 Clearly, not all modes are available for all timetable options A-U. The available modes are given in the table below.

	18-1	24-1	30-1	36-1	24-2	30-2	36-2
A	Y	Y	Y	Y	Y	Y	Y
B	Y	Y	Y	Y	Y	Y	Y
C	Y	Y	Y	Y	Y	Y	Y
D	Y	Y	Y	Y	Y	Y	Y
E	Y	Y	Y	Y	Y	Y	Y
F	Y	Y	Y	Y	Y	Y	Y
G	Y	Y	Y	Y	Y	Y	Y
H	Y	Y	Y	Y	Y	Y	Y
J	Y	Y	N	N	N	N	N
K	Y	Y	N	N	N	N	N
L	Y	Y	N	N	N	N	N
M	Y	Y	Y	Y	N	N	N
N	Y	Y	N	N	Y	Y	Y
O	Y	Y	Y	Y	Y	Y	Y
P	Y	Y	N	N	Y	Y	Y
Q	Y	Y	N	N	Y	Y	Y
R	Y	Y	N	N	N	N	N
S	Y	Y	N	N	N	N	N
T	Y	Y	N	N	N	N	N
U	Y	Y	N	N	N	N	N

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- 3.13 The examination timetable can be locked to the teaching timetable. There are a number of different ways in which this could be done, and one example is given below. Slots across a two week window are assigned to each module in a way closely associated with the lecture timetable; any module can be assigned one of two 2-hour examination slots.

EXAMINATION WEEK 1					
	M	T	W	T	F
09:00-11:00	A1	E1	B1	R1	F1
11:45-13:45	D1	G1	C1	T1	H1
14:30-16:30	J1	N1	L1	U1	P1
17:15-19:15	K1	Q1	M1	S1	O1

EXAMINATION WEEK 2					
	M	T	W	T	F
09:00-10:00	A2	F2	B2	R2	E2
11:00-12:00	D2	H2	C2	T2	G2
13:00-14:00	J2	O2	M2	U2	Q2
15:00-16:00	K2	P2	L2	S2	N2

However, there are alternative approaches, for example

- theoretically, with no limitations on space, and at the expense of a high density of examinations for students, the examinations could be completed in one week
- more reasonably, standard examination slots (one per timetable option) could be distributed over 10 days

However, a signal advantage of having two examination slots per timetable option is logistical. If a timetable option has associated with it a number of modules with high student numbers, it may not be feasible, because of limitations on space, to examine all these students in a single sitting

- 3.14 A framework to identify practical/laboratory sessions (whole-class and multiple-offerings) is presented at the end of this document. There is no preferred association between lecture slots and practical/laboratory sessions. Where there are a limited number of practical/laboratory sessions associated with the module, it may be feasible to share a practical/laboratory timeslot. 1/2, 3/4 etc. indicate that two modules requiring no more than six practical/laboratory sessions could be paired so that the one module will deliver practical/laboratory sessions in weeks 1,3,5.....11 while the other module will have the students available for practical/laboratory work in weeks

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2,4,6...12. The potential for pairing of slots in this fashion will best be identified by the relevant module co-ordinators. The module co-ordinator indicates which slot they will use, further qualifying it with the suffix odd or even if the practical is delivered on alternate weeks only. (e.g. 2 indicates practicals each week on Tuesday from 3 p.m. – 6 p.m., 2_{odd} indicates the practical is delivered in weeks 1,3,5....11 only, while 2_{even} indicates it is available in weeks 2,4,6...12 only).

- 3.15 This framework also provides a means to identify 3-hour lecture/tutorial slots where these are required, indicated as, for example A'1-A'3. Given that these deviate from the norm, widespread use of them will close off a large number of options and will be discouraged. Each 3-hour slot removes three other slots from use and significantly reduce the openness of the timetable. Pairs of 3-hour slots are associated with the 2-hour slots e.g. A' and B' 3-hour slots are associated with B,E and F two hour slots. Observing such pairings will minimise the impact of 3-hour slots e.g. if looking for two 3-hour slots, A' and B' close off three two hour slots whereas A' and D' would close off six three hour slots.
- 3.16 Where a programme requires students to attend off-site visits on a regular basis, the following approach can be taken. The programme should schedule a number of core modules into contiguous options (say M, O, Q). A local arrangement can be made across modules whereby lectures are not held in slots M1, O1 and Q1 on a number of weeks, leaving time free for off-site visits.
- 3.17 Where programmes, such as in Veterinary Medicine, begin at 8am it is possible to add slots U,V,W,X and Y from 8am to 10am whilst only blocking slots A, B and S.

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	M	T	W	T	F	S	S	S	S	S	S	S
08:00												
09:00	A1	D1 C3*	A2 B3*									
10:00	B1 A3*	A3 C1	B2 C3	B3 C2 D3*	D3						E'3	
11:00	E1	A'1 G1	F2	H2	D'1							
12:00	F1 E3*	A2 H1 G3*	C2 E2 F3*	G2 H3*	D'2							E2
13:00	J1	K1	J2	S1								
14:00	L1 C3 CD3	F3 M1 E3 EF3	G1 R1D3	M2 F3	H'1							J'3
15:00	N1	F1 Q1 O3*	G2 T1	O2 Q3*	H'2							J'1
16:00	P1 N3*	F2 O1	G3 U1	Q2	H'3							J'2
17:00												