

LTC15D070

Title: *SCI LTQC Course Approvals*
Author: Alexandra Hupton
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Status: Open

Issue

To receive minor changes course proposal for BSc Biochemistry, BSc Biochemistry with a Year in Industry, MSci Biochemistry, MSci Biochemistry with a Year Abroad from the Faculty of Science, Learning, Teaching and Quality Committee.

Recommendation

None.

Resource Implications

None.

Risk Implications

None.

Equality and Diversity

None.

Timing of decisions

SCI LTQC approved 29 October 2015, reported at SCI LTQC meeting 11 November 2015.

Further Information

Contact details: Alexandra Hupton, Learning and Teaching Coordinator, telephone 01603 597372, email: enb.ug.coord@uea.ac.uk, for any queries/further information relating to this document.

Background

N/A.

Discussion

N/A.

Attachments

BSc Biochemistry inc YinI Minor Changes Course Proposal Approved.pdf
MSci Biochemistry inc YA Minor Changes Course Proposal Approved.pdf



LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL FORM

(taught programmes only)

for **NEW COURSES** and
MINOR AMENDMENTS
 with **NO RESOURCE IMPLICATIONS**

Please refer to the course proposal Procedure and Guidance CP-2013 to complete this or any other course proposal form: to ensure the correct form is being used; for information on early considerations and timescales; for general guidance on the course approval process; and for notes on completing the form.

Course Title(s)	new course? <i>note 1</i>		If no, please give existing course code
	Y	N	
MSci Biochemistry MSci Biochemistry with a Year Abroad	Y	N	
School(s) of study & Faculty			
School of Biological Sciences, Faculty of Science			
Proposer & proposer's school			
Dr Andrew Hemmings (BIO/CHE)			
Proposed start date (of new course or of changes)			<i>note 2</i>
Academic Year 2016-2017			
I can confirm that this proposal meets the criteria for using the Minor Changes Course Proposal Form <i>note 3</i>			Y N

This form is in 5 parts:

- Part 1 Summary and Rationale
- Part 2 Impact Assessment
- Part 3 Academic Case including Programme Specification
- Part 4 Key Information Set (KIS) data
- Part 5 Approvals and Notification

The initiator is responsible for completing parts 1-4

UEA LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL

Part 1 SUMMARY AND RATIONALE

Course One				
S1	a	SCHOOL(S) OF STUDY	Biological Sciences	
<i>note S1c</i>	b	FACULTY or FACULTIES	SCI	
	c	JOINT COURSE? (ie owned/taught by more than one School)	YES	x
			NO	
	d	NAME OF COURSE DIRECTOR (Home School)	Andrew Hemmings (BIO/CHE) U1C701402 Fraser Macmillan (CHE) U1C72A402	
	e	NAME OF DEPUTY COURSE DIRECTOR (partner School, for Joint Courses only)	Fraser Macmillan (CHE) U1C701402 Andrew Hemmings (BIO/CHE) U1C72A402	
S2 <i>note S2a</i>	a	COURSE TITLE	Biochemistry Biochemistry with a Year Abroad	
<i>note S2b</i>	b	COURSE CODE	U1C701402 U1C72A402	
<i>note S2c & S2d</i>	c	AWARD	MSci Biochemistry MSci Biochemistry with a Year Abroad	
	d	EXIT AWARD(S) AND TITLE(S)	Certificate of Higher Education, Diploma of Higher Education, BSc, MSci	
	e	FULL/PART-TIME (please specify)	Full-time	
	f	LOCATION (UEA Norwich, UEA London, Distance Learning)	UEA Norwich	
	g	AVAILABLE FROM:	2016-2017	
S3 <i>note S3a</i> <i>note S3b</i>	a	PROFESSIONAL AWARD (if any)	N/A	
	b	ACCREDITING/VALIDATING BODY (if relevant)	N/A	
		Website (URL)	N/A	
		Date when accreditation/validation may take place	N/A	
S4 <i>note S4</i>	LEVEL	Sub-degree (e.g. Cert. Dip.)	Level 4: Certificate of Higher Education; Level 5: Diploma of Higher Education	
		Undergraduate	Level 6: Honours degree	
		Integrated Masters	Level 7: Masters degree	

		Masters	N/A		
		Other postgraduate (please specify)	N/A		
S5 note S5a	a	DURATION (years or months)	4 years		
note S5b	b	MODE OF ATTENDANCE (full-time, part-time, distance, other)	Full-time		
S6 note S6	PLACEMENT(S)/WORK-BASED LEARNING REQUIRED	YES	X	NO	
		If YES, does this conform with the UEA's code of practice on placements?			YES - For Year Year Abroad Course
S7 note S7	RELEVANT SUBJECT BENCHMARK STATEMENT(S)	<p>The following relate directly to the QAA Subject Benchmark Statement for Biosciences (2007).</p> <p>The courses described in this proposal have been designed to provide outcomes satisfying (and exceeding in many areas) the <u>typical</u> level described in the appropriate QAA benchmark statement i.e. significantly higher than the threshold level. Typical can be described as somewhere in the middle of the achievement range for students studying this subject nationally.</p> <p>1. Transferable and core skills</p> <p>All honours graduates from these biochemistry courses will have achieved the following typical standards.</p> <p><i>Typical standard</i></p> <p>5.8 On graduating with an honours degree students will:</p> <p><input type="checkbox"/> be able to access and evaluate bioscience information from a variety of sources and to communicate the principles both orally and in writing (eg essays, laboratory reports) in a way that is well organised, topical and recognises the limits of current hypotheses</p> <p><input type="checkbox"/> have ability in a broad range of appropriate practical techniques and skills relevant to the biosciences. This will include the ability to place the work in context and to suggest lines of further investigation have a secure and accurate understanding of the explanation of biological phenomena at a variety of levels (from molecular to ecological systems) and be able to understand the relationship of evolutionary</p>			

theory to their area of study

- be able to plan, execute and present an independent piece of work (eg a project), in which qualities such as time management, problem solving and independence are evident, as well interpretation and critical awareness of the quality of evidence
- be able to construct reasoned arguments to support their position on the ethical and social impact of advances in the biosciences
- be able to apply relevant advanced numerical skills (including statistical analysis, where appropriate) to biological data
- have well-developed strategies for updating, maintaining and enhancing their knowledge of the biosciences.

2. Factual and discipline-specific knowledge

All honours graduates will have achieved the following typical standards.

Typical standard

5.12 On graduating with an honours degree students will:

- be able to understand and explain the chemistry that underlies biochemical reactions and the techniques used to investigate them
- understand the principles that determine the three-dimensional structure of biological macromolecules and be able to explain detailed examples of how structure enables function
- have a critical understanding of the molecular basis of genetics and be able to explain some detailed examples
- have critical knowledge and understanding of gene expression, with a detailed knowledge of specific examples; the structure, arrangement, expression, and regulation of genes; and relevant experimental methods
- be familiar with a wide range of cells (both prokaryotic and eukaryotic) and be able to explain critically how their properties suit them for their biological function, and how they could be investigated experimentally
- be able to devise and evaluate suitable experimental methods for the investigation of relevant areas of biochemistry and

		<p>molecular biology</p> <ul style="list-style-type: none"> <input type="checkbox"/> have a critical understanding of essential features of cell metabolism and its control, including topics such as energy and signal transduction, respiration and photosynthesis. This will include knowledge and experience of some experimental techniques <input type="checkbox"/> understand the chemical and thermodynamic principles underlying biological catalysis and the role of enzymes and other proteins in determining the function and fate of cells and organisms. <p>In addition, graduates at the Master's level (MSci) will have developed skills and knowledge to a level at least consistent with the following statements describing the threshold level of competence for holders of a master's degree in chemistry:</p> <ul style="list-style-type: none"> <input type="checkbox"/> knowledge base extends to a systematic understanding and critical awareness of current research in the subject <input type="checkbox"/> problems of an unfamiliar nature are tackled with appropriate methodology and taking into account the possible absence of complete data <input type="checkbox"/> experimental work is carried out independently, with some evidence of originality, and with appropriate risk assessments <input type="checkbox"/> a substantial research project at the forefront of the subject is completed effectively <input type="checkbox"/> professional skills are developed appropriately for the workplace.
<p>S8 <i>note</i> S8</p>	<p>ENTRY REQUIREMENTS</p>	<p>MSci Biochemistry A level (typical offer): AAB including Chemistry and one other Science or Mathematics International baccalaureate: 33 points with HL Chemistry at 6 and one other Science or Mathematics at HL6 Special entry requirements: A2-level or equivalent in Chemistry and A2-Level in a second Science (Biology or Physics) or Maths.</p> <p>MSci Biochemistry with a Year Abroad A level (typical offer): AAB including Chemistry and one other Science or Mathematics International baccalaureate: 33 points with</p>

		HL Chemistry at 6 and one other Science or Mathematics at HL6 Special entry requirements: A2-level or equivalent in Chemistry and A2-Level in a second Science (Biology or Physics) or Maths.
S9	JACS Subject Level Code(s) To be completed by the Planning Office following approval of the Business Case	
S10	UCAS ADMISSION CODE / COURSE CODE To be completed by the Planning Office following approval of the Business Case	
S11 <i>note</i> S11	FURTHER INFORMATION available via...	
S12	COURSE HIGHLIGHTS (for publication in University Prospectus / Website / other publicity) NB Please include employability prospects/career possibilities	
<i>note</i> S12	<p>MSci Biochemistry</p> <p><i>"I work for a biotechnology company that designs, produces and sells a variety of scientific products such as antibody labelling kits. I have built on theoretical knowledge from my degree to provide technical support to our customers, and on the practical laboratory skills introduced in my degree to perform R&D experiments, manufacturing and quality control essays."</i></p> <p>- Carly Hammond, BSc Biochemistry</p> <p>Biochemistry is a broad and fascinating area of science, spanning many themes in biology, chemistry and even physics. That's why we've designed our Biochemistry degrees to give you plenty of choice in what you study – both the BSc and MSci include lots of optional modules, and their common first and second years allows you to switch between them once you've started studying.</p> <p>All of our BSc and MSci degrees give you a more flexible second year, allowing you to choose the emphasis of your study. So you'll have plenty of scope to satisfy your interests in both biology and chemistry. This MSci is similar in content to the BSc but includes an additional year that focuses on advanced topics at the interface between chemistry and biology.</p> <p>Study life and the chemistry that underpins it</p> <p>The degree is taught by the School of Biological Sciences and the School of Chemistry, which gives you a flexible, diverse programme as well as the benefit of both Schools' world-renowned expertise.</p> <p>You'll be taught the fundamental chemical principles that underlie biochemistry alongside aspects of cellular and molecular biology. This provides your foundation to study more specialist topics that address contemporary developments in the field, from medicinal chemistry and genetics to protein engineering and microbial biotechnology.</p> <p>Course Structure</p> <p>The degree is a four-year programme that consists of an in-depth introduction to fundamental biochemical science in the first year, followed by flexible second and third years that allow you to tailor your course depending on whether you wish to follow a more chemical or biological pathway or somewhere in between! In year 3 you'll also take a laboratory module which bridges the gap between undergraduate laboratory modules and postgraduate research. In year 4 you will select from a range of advanced level taught modules and undertake an advanced project during which you will become</p>	

integrated into an active research group to investigate a topic at the forefront of modern biochemistry.

First year

Compulsory Modules:

Fundamentals of Molecular Biology and Genetics

Fundamentals of Cell Biology and Biochemistry

Chemistry of Carbon-Based Compounds

Bonding, Structure and Periodicity

Practical and Quantitative Skills in Chemistry

Physical and Analytical Methods in the Biomolecular Sciences

Second year

Compulsory Modules:

Biochemistry

Molecular Biology

Biophysical Chemistry

Medicinal Chemistry

Optional Modules:

Cell Biology

Genetics

Organic Chemistry

Inorganic Chemistry

Third year

Compulsory Modules

Molecular Enzymology in Biology and Medicine

Protein Structure, Chemistry and Engineering

Advanced Laboratory

Optional Modules

2 optional modules from a range including:

Microbial Biotechnology

Genomes, Genes and Genomics

Infection and Immunity

Advanced Topics in Organic Chemistry

Inorganic Compounds: Structure and Function

Organic compounds: Structure and Properties

Microbiology

Fourth year

Compulsory Modules

MSci Research Project

Optional Modules

3 optional advanced modules in chemistry or biology from areas including:

Medicinal chemistry, organic chemistry, biological chemistry, microbiology,

biotechnology and molecular medicine

Practical lab-based teaching

Throughout the four-year course you'll have regular access to our amazing facilities including state of the art undergraduate practical laboratories. Your research project

may also benefit from access to our research electron microscopes, mass spectrometers and high-field nuclear magnetic resonance spectrometers.

We aim to give our students as much time in the lab as possible, so we're not just transferring knowledge but also developing skills. We believe hands-on experiments, backed by thought-provoking seminars and lectures, give you the best possible education. Our students agree, having placed both Schools in the top 5 for student satisfaction in the NSS, with Biology ranking 1st in 2014.

Join a world-renowned research environment

The facilities and faculty at UEA are among the best in country – both Schools are internationally renowned for their research excellence thanks to their contributions to the big problems facing scientists today.

We're based at the heart of Norwich Research Park – the most cited scientific research centre outside of Oxbridge and London, which specialises in the life sciences. The School of Chemistry is ranked 4th in the UK for the quality of its research output, and 100% of our research in Biological Sciences is internationally recognised (REF 2014). This prestigious environment produces some ground-breaking research that has a real impact and gives our students access to academics at the top of their field.

MSci Biochemistry with a Year Abroad

"I work for a biotechnology company that designs, produces and sells a variety of scientific products such as antibody labelling kits. I have built on theoretical knowledge from my degree to provide technical support to our customers, and on the practical laboratory skills introduced in my degree to perform R&D experiments, manufacturing and quality control essays."

- Carly Hammond, BSc Biochemistry

Biochemistry is a broad and fascinating area of science, spanning many themes in biology, chemistry and even physics. That's why we've designed our Biochemistry degrees to give you plenty of choice in what you study – both the BSc and MSci include lots of optional modules, and their common first and second years allows you to switch between them once you've started studying.

All of our BSc and MSci degrees give you a more flexible second year, allowing you to choose the emphasis of your study. So you'll have plenty of scope to satisfy your interests in both biology and chemistry. This MSci is similar in content to the BSc but includes an additional year that allows you to spend an entire year at a university abroad. This degree is perfect for those who want to gain a deeper understanding of biochemistry and experience of a different culture during your studies.

Study life and the chemistry that underpins it

The degree is taught by the School of Biological Sciences and the School of Chemistry, which gives you a flexible, diverse programme as well as the benefit of both Schools' world-renowned expertise.

You'll be taught the fundamental chemical principles that underlie biochemistry alongside aspects of cellular and molecular biology. This provides your foundation to study more specialist topics that address contemporary developments in the field, from medicinal chemistry and genetics to protein engineering and microbial biotechnology.

Course Structure

The degree is a four-year programme that consists of an in-depth introduction to fundamental biochemical science in the first year, followed by a flexible second year

that allows you to tailor your course depending on whether you wish to follow a more chemical or biological pathway or somewhere in between! You'll spend the third year abroad. In the fourth and final year you will select from a range of advanced level taught modules and undertake an advanced project during which you will become integrated into an active research group to investigate a topic at the forefront of modern biochemistry.

First year

Compulsory Modules:

Fundamentals of Molecular Biology and Genetics

Fundamentals of Cell Biology and Biochemistry

Chemistry of Carbon-Based Compounds

Bonding, Structure and Periodicity

Practical and Quantitative Skills in Chemistry

Physical and Analytical Methods in the Biomolecular Sciences

Second year

Compulsory Modules:

Biochemistry

Molecular Biology

Biophysical Chemistry

Medicinal Chemistry

Optional Modules:

Cell Biology

Genetics

Organic Chemistry

Inorganic Chemistry

Third year

Year abroad

Fourth year

Compulsory Modules

MSci Research Project

Optional Modules

3 optional advanced modules in chemistry or biology from areas including:

Medicinal chemistry, organic chemistry, biological chemistry, microbiology, biotechnology and molecular medicine

Practical lab-based teaching

Throughout your time at UEA you'll have regular access to our amazing facilities including state of the art undergraduate practical laboratories. Your research project may also benefit from access to our research electron microscopes, mass spectrometers and high-field nuclear magnetic resonance spectrometers.

We aim to give our students as much time in the lab as possible, so we're not just transferring knowledge but also developing skills. We believe hands-on experiments, backed by thought-provoking seminars and lectures, give you the best possible education. Our students agree, having placed both Schools in the top 5 for student satisfaction in the NSS, with Biology ranking 1st in 2014.

Join a world-renowned research environment

	<p>The facilities and faculty at UEA are among the best in country – both Schools are internationally renowned for their research excellence thanks to their contributions to the big problems facing scientists today.</p> <p>We're based at the heart of Norwich Research Park – the most cited scientific research centre outside of Oxbridge and London, which specialises in the life sciences. The School of Chemistry is ranked 4th in the UK for the quality of its research output, and 100% of our research in Biological Sciences is internationally recognised (REF 2014). This prestigious environment produces some ground-breaking research that has a real impact and gives our students access to academics at the top of their field.</p>
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*****Please copy and paste the above table for additional (related) courses*****

S13	RATIONALE FOR PROPOSAL
<i>note S13</i>	Please explain why you are proposing this/these new course(s) or these course amendments, and why this proposal is being offered at this time. See guidance notes for further indication of what to include in this section.
	<p>The current BSc Biochemistry (BIO) and BSc Biological and Medicinal Chemistry (BMC) (administered by CHE) courses are subject to a proposal for their amalgamation by so doing to generate two new repurposed Biochemistry BSc courses to be run jointly by the two Schools. This sister proposal suggests a redesign of the MChem BMC (course code F152) and MChem BMC with Year in North America (F153) courses offered by CHE to generate new MSci Biochemistry (C701) and MSci Biochemistry with a Year Abroad (C72A) courses, respectively, again to be run jointly. In this process, the course profiles for F152 and F153 have been redesigned to give a wider choice to students at stages 2, 3 (for C701) and 4, in principle allowing module choices consistent with both original courses while still satisfying subject-specific benchmark statements for biochemistry.</p>

UEA LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL

Part 2 BUSINESS CASE

note BC

BC1	ACADEMIC AND RECRUITMENT STRATEGY	Consult with HOS, Faculty Dean, PLN, ARM (including Admissions)
	NOT REQUIRED	

BC2 <i>note BC2</i>	MARKET RESEARCH	Consult with Market Research team
	NOT REQUIRED	

BC3 <i>note BC3</i>	MARKET DEMAND AND RECRUITMENT	Consult with Careers and Employability team
	NOT REQUIRED	

BC4 <i>note BC4</i>	STUDENT NUMBERS AND TUITION FEES	Consult with HOS, PLN, Faculty Dean, FFM
	NOT REQUIRED	

BC5	IMPACT					
BC5.1 <i>note BC5.1</i>	EQUALITY AND DIVERSITY	Consult with Equality & Diversity Manager and Widening Participation team				
a	Does the course and/or School cover a subject area(s) which traditionally attract(s) a very specific or narrow student profile?	<table border="1"> <tr> <td>YES</td> <td></td> </tr> <tr> <td>NO</td> <td>X</td> </tr> </table>	YES		NO	X
YES						
NO	X					
b	If yes, what steps will be taken to attract non-traditional students to the course/School? (Aspects to consider include: age, disability, ethnicity (home and international), gender, sexual orientation, religion and belief, and socio-economic group.)					
	N/A					
c	Will students undertake placements/ come into direct contact with vulnerable groups as part of their study? If so, will a CRB be required?					
	Student taking the Year Abroad course variant will undertake a year of study in a university not in the UK` but will not come into direct contact with vulnerable groups.					

BC 5.2 <i>note</i> BC5.2	CURRENT STUDENTS AND/OR APPLICANTS		
a	Have School SSLCs been consulted regarding this proposal? If YES, what has been their input/response?	YES	X
		NO	
b	Will any current students or applicants be affected by this proposal?	YES	
		NO (go to 5.3)	X
c	Evidence of consultation of current students and written consent obtained Please briefly describe what consultation has taken place and what responses there have been. Is there full support from all members of the relevant student cohort(s)?		
	Discussion of the proposed changes took place at BIO SSLC. Details were also circulated to CHE SSLC student representatives. No responses were received from representatives or current students in either School.		
d	Informing applicants What arrangements have been made (for informing applicants who may be affected by any change(s)? Written notification, including advice about any alternative options that may be given, must be sent to applicants holding unconditional/conditional firm or conditional insurance offers.		
	This is not applicable as current students will continue on their respective degree profiles until graduation.		
BC5.3 <i>note</i> BC5.3	ACADEMIC STAFF	Consult with HOS, Dean of Faculty	
	What is the impact / what are the resource implications of the proposal on academic staff?		
a	Please give an indicative number of <u>additional</u> teaching hours required within the school to deliver the new course/changes to the course in any one year		0
b	Is a new discipline or specialism being introduced that requires a new appointment?	YES	
		NO	X
c	Are new appointments required to meet any additional hours?	YES	
		NO	X
d	If yes to either b or c above, how many of what type (eg Teaching and Scholarship, Teaching and Research) and at what level?		
	N/A		
e	What is the source of funding for new academic staff?		
	N/A		
f	Are there any implications outside the sponsoring School/s e.g. service teaching, by other Schools of Studies?		
	No		
g	Are any other teaching adjustments required? For example, will new modules be introduced, other modules withdrawn or combined?		

	No		
BC5.4 <i>note</i> BC5.4	COURSE RATIONALISATION	Consult with HOS, Dean of relevant Faculties, PLN	
a	DO ANY SIMILAR COURSES ALREADY EXIST AT UEA?	YES	X
		NO	
	If YES, please specify Course name, UCAS Code(s) / Course codes		
	MChem Biological & Medicinal Chemistry F152/ U1F152402 MChem Biological & Medicinal Chemistry with Year in North America F153/ U1F153402		
b	IS/ARE ANY COURSE(S) TO BE CLOSED TO NEW APPLICANTS AS PART OF THIS PROPOSAL?	YES	X
		NO	
	If YES, please specify Course name, UCAS Code(s) / Course codes and date from which course(s) is to be withdrawn?		
	F152/U1F152402 and F153/U1F153402 , withdrawn for new entrants from 2016-2017		
c	Please give an indicative number of teaching hours <u>released</u> within the school in any one year by the closure of the courses listed above		0

BC6	PHYSICAL RESOURCES
	NOT REQUIRED

BC7 <i>note</i> BC7	IMPACT / RESOURCE IMPLICATIONS FOR OTHER UNIVERSITY SERVICES
	NOT REQUIRED

BC8	ADDITIONAL COMMENTS
	NOT REQUIRED

BC9	PROPOSER'S RESPONSE TO COMMENTS IN BC7 & BC8 ABOVE
	NOT REQUIRED

UEA LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL

Part 3 ACADEMIC CASE (including Programme Specification)

AC1	COURSE MANAGEMENT INFORMATION				
AC1.1	REGULATORY FRAMEWORK (please tick all that apply)				
	Undergraduate Regulations (including Integrated Masters)				X
	Postgraduate Taught Regulations				
	Graduate Diplomas				
	PGCE				
AC1.2a	Is the course as a whole assessed on a pass/fail basis?	YES		NO	X
AC1.2b	Are any modules assessed on a pass/fail basis?	YES		NO	X
AC1.2c	If so, how many modules and what is the credit volume for each module?				

AC2 <i>note</i> AC2.1	YEAR WEIGHTINGS AND PROGRESSION REQUIREMENTS MSci BIOCHEMISTRY (For undergraduate or integrated masters courses only)				
Please select only from the permitted options - see UG/PGT regulations					
Stage <i>Note AC2.2</i>	Level	Year of course	Weightings	Progression requirement	Exit Award <i>Note AC2.3</i>
Stage 0	Level 3				
Stage 1	Level 4		0	60	Cert HE
Stage 2	Level 5		20	60	Dip HE
Stage 3	Level 6		30	60	BSc
Stage M	Level 7		50	50	MSci

AC2 <i>note</i> AC2.1	YEAR WEIGHTINGS AND PROGRESSION REQUIREMENTS MSci BIOCHEMISTRY with Year Abroad (For undergraduate or integrated masters courses only)				
Please select only from the permitted options - see UG/PGT regulations					
Stage <i>Note AC2.2</i>	Level	Year of course	Weightings	Progression requirement	Exit Award <i>Note AC2.3</i>
Stage 0	Level 3				

Stage 1	Level 4		0	60	Cert HE
Stage 2	Level 5		20	60	Dip HE
Year Abroad /in Industry			30	60	BSc
Stage M	Level 7		50	50	MSci

AC3	BOARD OF EXAMINERS				
AC3.1	Is there an existing Board of Examiners?	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
AC3.2a	If YES, which existing board will be responsible for the course?	BIO			
AC3.2b	If NO, please enter details for new board of examiners				
	Are any new external examiner(s) required?	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
AC3.3b	If yes, how many?				

PS	PROGRAMME SPECIFICATION
<i>note PS</i>	This part of the form will serve a dual purpose. Please read the guidance note carefully before completing
PLEASE ATTACH AN UPDATED PROGRAMME SPECIFICATION WITH TRACKED CHANGES SHOWING AMENDMENTS TO THE COURSE	

AC4	MODULE OUTLINES FOR EXISTING COMPULSORY MODULES
	NOT REQUIRED

AC5	MINOR CHANGES TO EXISTING MODULES
	NOT REQUIRED

AC6	NEW MODULES
	NOT REQUIRED

AC 7 <i>note AC7</i>	DEFINED CHOICE
	NOT REQUIRED

AC8 <i>note</i> AC8	JOINT COURSES		
	Is the proposed course is a joint course?	YES	x
		NO	
	If YES, how will the student experience be managed?		
	Students will participate in the BIO School induction programme at the start of their courses. They will also take part in elements of the CHE induction programme and have separate briefings organized by the CDs in week 1 of semester the objective of which will be to 'bridge the gap' between the two Schools. Further information is provided in the Additional Information statement (attached).		

AC9	COMMENTS/FEEDBACK FROM EXTERNAL PROFESSIONALS/ BODIES		
	Is this course accredited or validated by a Professional, Statutory or Regulatory Body (PSRB)?	YES	
		NO	x
	If NO, go to AC10		
<i>note</i> AC9	If YES, please provide a summary of Professional, Statutory or Regulatory Body (PSRB) approval, if appropriate. Append any relevant documents as Appendix 3		

AC10	COMMENTS ON ACADEMIC CASE AND PROGRAMME SPECIFICATION		
COMPLETION OF THIS SECTION TO BE COORDINATED BY LEARNING AND TEACHING SERVICE (LTS) COORDINATOR			
<i>note</i> AC10	Please circulate Parts 1, 3 & 4 to the following for their additional comments (if any). Comments to be returned to proposer within 10 working days.		
	NB these comments should focus on the <i>ACADEMIC CONTENT</i> of the proposal		
Date of circulation:	12/05/2015		
AC10.1	Careers Manager (CCEN)		
No response received			
AC10.2	Learning & Teaching Service (LTS) Manager (UG or PGT, as appropriate)		
From: Caroline Sauverin (LTS) Sent: 16 October 2015 16:50 Subject: RE: Minor Course Proposals BSc Biochemistry with Year in Industry and MSci Biochemistry with a Year Abroad			
Further to my email below, I have had a chat with David [Stevens, SCI AD LTQ], and as this is			

a consolidation of already-existing courses, I am happy not to hold up approval. However, the conversion of marks will have to be considered in due course, and I have started to arrange a meeting to this effect. Approval for this at the moment does not negate the need to consider what we are going to do about the year abroad marks across the board, regardless of when the course was approved.

Caroline Sauverin

Head of Learning & Teaching (Systems), LTS : Learning & Teaching Services

From: Caroline Sauverin (LTS)

Sent: Friday, October 16, 2015 10:16 AM

Subject: RE: Minor Course Proposals BSc Biochemistry with Year in Industry and MSci Biochemistry with a Year Abroad

We need more information on how the year abroad MSci is going to work. As this year will count towards classification, there are concerns, as Ben has alluded to, concerning the allocation of marks abroad and their conversion to UEA marks/contribution to UEA classification. This was summed up in a paper that went to LTC in June, where it was approved that Semesters abroad would be pass/fail. This is on top of year abroad periods of study for 4-year Bachelors degrees being pass/fail. The discussion regarding integrated masters was as follows:

i. For Integrated Masters Courses with a year abroad

Integrated Masters courses consist of 360 undergraduate credits (120 at each level 4, 5 and 6, in line with the BIM regulations), and 120 credits at level 7 (Masters level). The classification of these courses under BIM is based on year weighting of 20:30:40 for years 2, 3 and 4. There was some discussion at the February meeting regarding the IM issue, but further discussions will need to take place. Unlike four-year Bachelors programmes, where the year abroad can be discounted from the classification, IM year abroad marks currently count towards the degree. If this were to change to *not counting*, there were concerns that students on a year-abroad variant would be being treated differently to those studying at home. The effect would be that NO level 6 modules would count towards classification and a rather complicated weighting of 28 4/7, for Year 2, and 713/7 for Year 4. It seemed from the mood of the meeting that this felt a step too far, and some other solution should be found. Alternatives include:

- a. Restrict the number of institutions IM students can go to, and their module choice whilst there, and build up relationships with those institutions, so that there is a good understanding of the curriculum and assessment. This will lead to greater confidence and transparency in the conversion of marks. If this were chosen, we would expect Schools to publish the conversion scales they use in calculating the marks.
- b. In addition to the above, reduce the weighting for the study abroad year. This would not be recommended, as it suggests that there isn't the expected confidence in the conversions being used.
- c. Explore whether treating the pass/fail option would be acceptable, to the University, the students and any professional body, such as the Royal Society of Chemistry.

Please could Andrew confirm how he sees the year abroad working, which institutions would be used, and how the marks would be converted, pending further discussions on the issue with the Faculty? I think we do need this reassurance before final approval.

Caroline Sauverin

Head of Learning & Teaching (Systems), LTS : Learning & Teaching Services

From: Michele Pavey (LTS)

Sent: Wednesday, May 27, 2015 5:55 PM

Subject: RE: Minor Course Change Proposal - BSc and MSci Biochemistry

The only comment I have is that it should be made clear somewhere on the minor course

proposal forms that BIO is the lead School (which I think is the case even though it runs across both).

Michele Pavey, 28/05/2015

AC10.2 Equality & Diversity Manager (PPE)

No response received

AC11	PROPOSER'S RESPONSE TO COMMENTS IN AC9 & AC10 ABOVE
<p><i>note</i> AC11</p>	<p>From: Karin Goodby (LTS) Sent: Monday, May 11, 2015 4:05 PM To: Andrew Hemmings (CHE) Cc: Carole Bull (LTS) Subject: FW: Minor Course Change Proposal - BSc Biochemistry Importance: High</p> <p>Hi Andrew,</p> <p>Thanks for sending the course proposals to Carole.</p> <p>Can I just check some queries with you before circulating to colleagues as per section A10:</p> <ul style="list-style-type: none"> • Where the Course Proposal form refers to School of study, are you happy for me to amend to 'Biological Sciences' to reflect that the courses will be housed within BIO (as per the letter of support from Tamas Dalmay)? • Biochemistry currently has a part-time variant (U1C700602). Will this continue or not? <p>Many thanks Karin</p> <p>From: Andrew Hemmings (CHE) Sent: Monday, May 11, 2015 5:56 PM To: Karin Goodby (LTS) Cc: Carole Bull (LTS) Subject: RE: Minor Course Change Proposal - BSc Biochemistry</p> <p>Hi Karin</p>

1. Yes, it's OK to change School of study to BIO.
2. There is only one P/T biochemistry student and she will complete at the end of 2015/16. It is my intention is to seek to close the course at that point and I will be bringing this proposal to BIO teaching executive.

Andrew

MINOR CHANGES COURSE PROPOSAL**Part 4 KEY INFORMATION SET (KIS) DATA****SCI BIO MSci Biochemistry**

KIS	KEY INFORMATION SET data (undergraduate courses only)						<i>Note KIS</i>
KIS1	Quantitative KIS data						<i>Note KIS1</i>
		Year 1	Year 2	Year 3	Year 4	Year 5	
1.1	Percentage of assessment by written exams	60	60	50	30		
1.2	Percentage of assessment by practical exams	0	0	0	0		
1.3	Percentage of assessment by coursework	40	40	50	70		
1.4	Percentage of time in scheduled learning and teaching activities	42	40	32	17		
1.5	Percentage of time in guided independent study	58	60	68	83		
1.6	Percentage of time on placements	0	0	0	0		
KIS2	Professional Accreditation						<i>Note KIS2</i>
2.1	Name of accrediting body (if applicable)						
	N/A						
2.2	Please give details, including any memberships, exemptions etc that the award confers. Please also give accrediting body website URL.						
2.3	Is the accreditation dependent on specific module choices? If so, please include URL of web pages where these details are outlined.						

SCI BIO MSci Biochemistry with a Year Abroad

KIS	KEY INFORMATION SET data (undergraduate courses only)						<i>Note KIS</i>
KIS1	Quantitative KIS data						<i>Note KIS1</i>
		Year 1	Year 2	Year 3	Year 4	Year 5	
1.1	Percentage of assessment by written exams	60	60	60	30		
1.2	Percentage of assessment by practical exams	0	0	10	0		
1.3	Percentage of assessment by coursework	40	40	30	70		
1.4	Percentage of time in scheduled learning and teaching activities	42	40	0	17		
1.5	Percentage of time in guided independent study	58	60	0	83		
1.6	Percentage of time on placements	0	0	100	0		
KIS2	Professional Accreditation						<i>Note KIS2</i>
2.1	Name of accrediting body (if applicable)						
	N/A						
2.2	Please give details, including any memberships, exemptions etc that the award confers. Please also give accrediting body website URL.						
2.3	Is the accreditation dependent on specific module choices? If so, please include URL of web pages where these details are outlined.						

MINOR CHANGES COURSE PROPOSAL**Part 5 APPROVALS AND NOTIFICATION****APPROVALS***Note AP*

THIS SECTION WILL BE COORDINATED BY THE SECRETARY TO YOUR FACULTY TEACHING AND LEARNING QUALITY COMMITTEE (FLTQC)				
AP1	APPROVAL OF THE BUSINESS CASE			
	APPROVAL/SIGNATURES	Name	Signature/ evidence of approval	Date
AP1.1	School Director of Learning, Teaching and Quality			
AP1.2	Head of School (on behalf of School Board)			
AP1.3	Dean of Faculty (on behalf of Faculty Executive)			
AP1.4	LTC (if relevant)			
AP1.5	Council (if relevant)			
AP1.6	Reasons for approval being withheld (and by whom)			

AP2	APPROVAL OF THE ACADEMIC CASE			
AP2.1	Head of School	Name	Signature	Date
	Approved:	Professor Tamas Dalmay		29 Oct 2015
	<p>From: Tamas Dalmay (BIO) Sent: 29 October 2015 15:15 To: LTS Co-ordinators ENV NBS BIO UG Subject: Re: Minor Course Proposals BSc Biochemistry with Year in Industry and MSci Biochemistry with a Year Abroad</p> <p>I approve the Academic Case of Minor Course Proposals for:</p> <ul style="list-style-type: none"> · BSc Biochemistry and BSc Biochemistry with a Year in Industry · MSci Biochemistry and MSci Biochemistry with a Year Abroad <p>Tamas Dalmay</p>			

	Approved with amendments:			
	Rejected:			
	Comments (if any):			
AP2.2	Faculty Associate Dean (for Faculty LTQC)	Name	Signature	Date
	Approved:	Professor David Stevens		29 Oct 2015
	From:	David Stevens (MTH)		
	Sent:	29 October 2015 15:56		
	To:	LTS Co-ordinators ENV NBS BIO UG		
	Cc:	David Stevens (MTH); Tamas Dalmay (BIO); David Stevens (MTH); Andrew Hemmings (CHE); Ben Milner (CMP)		
	Subject:	Re: Minor Course Proposals BSc Biochemistry with Year in Industry and MSci Biochemistry with a Year Abroad		
	Dear Alex,			
	I am happy to approve these programmes as they play an important role in streamlining our offering in biochemistry.			
	Best wishes, Dave			
	Approved with amendments:			
	Rejected:			
	Comments (if any):			
AP2.3	PVC Academic (for LTC)	Name	Signature	Date
	Approved:			
	Approved with amendments:			
	Rejected:			
	Comments (if any):			
Where applicable:				

AP2.4	Secretary to Council	Name	Signature	Date
	Approved:			
	Approved with amendments:			
	Rejected:			
	Comments (if any):			

MINOR CHANGES COURSE PROPOSAL

<i>Note N1</i>				NOTIFICATION OF APPROVAL	
This section should be completed by Faculty FLTQC Secretary once a course proposal has been approved. Its purpose is to ensure that relevant Offices are informed of the approval of course proposals (new courses and course amendments), in accordance with the procedures for course approval.					
FACULTY		Faculty of Science		SCHOOL	
				School of Biological Sciences	
NEW COURSE?		Y		N	
				If NO, please enter existing course code	
DEGREE AWARD (e.g. BSc/MA)			MSci		
TITLE OF PROGRAMME			Biochemistry and Biochemistry with a Year Abroad		
START DATE		Academic Year 2016-2017		LENGTH OF COURSE	
				4 years	
Course Approved by:		Name of Committee Chair		Date of approval	
Faculty Learning and Teaching Quality Committee (FLTQC)		Professor David Stevens		29 Oct 2015	
Learning and Teaching Committee (LTC)					
RELEVANT OFFICE INFORMED? *insert date					
Planning Office		Admissions and Marketing		Learning and Teaching Service	
				Union of UEA Students	
29 Oct 2015		29 Oct 2015		29 Oct 2015	
29 Oct 2015		29 Oct 2015		29 Oct 2015	
sis.records@uea.ac.uk		arm.operations@uea.ac.uk		Email the LTS coordinator responsible for the course	
				union.academic@uea.ac.uk	

<i>Note N1</i>		IMPLEMENTATION ACTIONS	
COURSE NAME		NEW ROUTE CODE	
ACTION		DATE	
COURSE INFORMATION LIVE IN ADMISSIONS			
PROGRAMME SPECIFICATION UPLOADED ONTO WEBSITE			
COURSE PROFILE UPLOADED ONTO SITS			
COURSE CLOSURES COMMENCED (where appropriate)			



LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL FORM

(taught programmes only)

for **NEW COURSES** and
MINOR AMENDMENTS
 with **NO RESOURCE IMPLICATIONS**

Please refer to the course proposal Procedure and Guidance CP-2013 to complete this or any other course proposal form: to ensure the correct form is being used; for information on early considerations and timescales; for general guidance on the course approval process; and for notes on completing the form.

Course Title(s)	new course? <i>note 1</i>		If no, please give existing course code
BSc Biochemistry BSc Biochemistry with a Year in Industry	Y	N	U1C700302 U1C720402
School(s) of study & Faculty			
School of Biological Sciences, Faculty of Science			
Proposer & proposer's school			
Dr Andrew Hemmings (BIO/CHE)			
Proposed start date (of new course or of changes)			<i>note 2</i>
Academic Year 2016-2017			
I can confirm that this proposal meets the criteria for using the Minor Changes Course Proposal Form <i>note 3</i>		Y	N

This form is in 5 parts:

- Part 1 Summary and Rationale
- Part 2 Impact Assessment
- Part 3 Academic Case including Programme Specification
- Part 4 Key Information Set (KIS) data
- Part 5 Approvals and Notification

The initiator is responsible for completing parts 1-4

UEA LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL

Part 1 SUMMARY AND RATIONALE

Course One				
S1	a	SCHOOL(S) OF STUDY	Biological Sciences	
<i>note S1c</i>	b	FACULTY or FACULTIES	SCI	
	c	JOINT COURSE? (ie owned/taught by more than one School)	YES	x
			NO	
	d	NAME OF COURSE DIRECTOR (Home School)	Andrew Hemmings (CHE/BIO) U1C700302 Richard Bowater (BIO) U1C720402	
	e	NAME OF DEPUTY COURSE DIRECTOR (partner School, for Joint Courses only)	Richard Bowater (BIO) U1C700302 Andrew Hemmings (CHE/BIO) U1C720402	
S2 <i>note S2a</i>	a	COURSE TITLE	Biochemistry Biochemistry with a Year in Industry	
<i>note S2b</i>	b	COURSE CODE	U1C700302 U1C720402	
<i>note S2c & S2d</i>	c	AWARD	BSc (Hons) Biochemistry BSc (Hons) Biochemistry with a Year in Industry	
	d	EXIT AWARD(S) AND TITLE(S)	Certificate of Higher Education, Diploma of Higher Education, BSc	
	e	FULL/PART-TIME (please specify)	Full-time	
	f	LOCATION (UEA Norwich, UEA London, Distance Learning)	UEA Norwich	
	g	AVAILABLE FROM:	2016-2017	
S3 <i>note S3a</i> <i>note S3b</i>	a	PROFESSIONAL AWARD (if any)		
	b	ACCREDITING/VALIDATING BODY (if relevant)	Society of Biology (U1C720402)	
		Website (URL)	http://www.societyofbiology.org/	
		Date when accreditation/validation may take place	U1C720402 holds current accreditation	
S4 <i>note S4</i>	LEVEL	Sub-degree (e.g. Cert. Dip.)	Level 4: Certificate of Higher Education; Level 5: Diploma of Higher Education	
		Undergraduate	Level 6: Honours degree	
		Integrated Masters	N/A	
		Masters	N/A	
		Other postgraduate (please specify)	N/A	

S5 <i>note S5a</i>	a	DURATION (years or months)	3 years (4 years U1C720402)			
<i>note S5b</i>	b	MODE OF ATTENDANCE (full-time, part-time, distance, other)	Full-time			
S6 <i>note S6</i>	PLACEMENT(S)/WORK-BASED LEARNING REQUIRED		YES	X	NO	
			If YES, does this conform with the UEA's code of practice on placements?			YES For Year in Industry variant
S7 <i>note S7</i>	RELEVANT SUBJECT BENCHMARK STATEMENT(S)		<p>The following relate directly to the QAA Subject Benchmark Statement for Biosciences (2007).</p> <p>The courses described in this proposal have been designed to provide outcomes satisfying (and exceeding in many areas) the <u>typical</u> level described in the QAA benchmark statement for the biosciences i.e. significantly higher than the threshold level. Typical can be described as somewhere in the middle of the achievement range for students studying this subject nationally.</p> <p>1. Transferable and core skills</p> <p>All honours graduates from these biochemistry courses will have achieved the following typical standards.</p> <p><i>Typical standard</i> 5.8 On graduating with an honours degree students will:</p> <ul style="list-style-type: none"> <input type="checkbox"/> be able to access and evaluate bioscience information from a variety of sources and to communicate the principles both orally and in writing (eg essays, laboratory reports) in a way that is well organised, topical and recognises the limits of current hypotheses <input type="checkbox"/> have ability in a broad range of appropriate practical techniques and skills relevant to the biosciences. This will include the ability to place the work in context and to suggest lines of further investigation have a secure and accurate understanding of the explanation of biological phenomena at a variety of levels (from molecular to ecological systems) and be able to understand the relationship of evolutionary theory to their area of study <input type="checkbox"/> be able to plan, execute and present an independent piece of work (eg a project), in 			

which qualities such as time management, problem solving and independence are evident, as well interpretation and critical awareness of the quality of evidence

- be able to construct reasoned arguments to support their position on the ethical and social impact of advances in the biosciences
- be able to apply relevant advanced numerical skills (including statistical analysis, where appropriate) to biological data
- have well-developed strategies for updating, maintaining and enhancing their knowledge of the biosciences.

2. Factual and discipline-specific knowledge

All honours graduates will have achieved the following typical standards.

Typical standard

5.12 On graduating with an honours degree students will:

- be able to understand and explain the chemistry that underlies biochemical reactions and the techniques used to investigate them
- understand the principles that determine the three-dimensional structure of biological macromolecules and be able to explain detailed examples of how structure enables function
- have a critical understanding of the molecular basis of genetics and be able to explain some detailed examples
- have critical knowledge and understanding of gene expression, with a detailed knowledge of specific examples; the structure, arrangement, expression, and regulation of genes; and relevant experimental methods
- be familiar with a wide range of cells (both prokaryotic and eukaryotic) and be able to explain critically how their properties suit them for their biological function, and how they could be investigated experimentally
- be able to devise and evaluate suitable experimental methods for the investigation of relevant areas of biochemistry and molecular biology
- have a critical understanding of essential features of cell metabolism and its control,

		including topics such as energy and signal transduction, respiration and photosynthesis. This will include knowledge and experience of some experimental techniques <input type="checkbox"/> understand the chemical and thermodynamic principles underlying biological catalysis and the role of enzymes and other proteins in determining the function and fate of cells and organisms.
S8 note S8	ENTRY REQUIREMENTS	<p>BSc Biochemistry A level (typical offer): ABB including Chemistry and one other Science or Mathematics International baccalaureate: 32 points with HL Chemistry at 5 and one other Science or Maths at HL5 Special entry requirements: A2-level or equivalent in Chemistry and A2-Level in a second Science (Biology or Physics) or Maths.</p> <p>BSc Biochemistry with a Year in Industry A level (typical offer): AAB including Chemistry and one other Science or Mathematics International baccalaureate: 33 points with HL Chemistry at 6 and one other Science or Mathematics at HL6 Special entry requirements: A2-level or equivalent in Chemistry and A2-Level in a second Science (Biology or Physics) or Maths.</p>
S9	JACS Subject Level Code(s) To be completed by the Planning Office following approval of the Business Case	
S10	UCAS ADMISSION CODE / COURSE CODE To be completed by the Planning Office following approval of the Business Case	
S11 note S11	FURTHER INFORMATION available via...	
S12	COURSE HIGHLIGHTS (for publication in University Prospectus / Website / other publicity) NB Please include employability prospects/career possibilities	
note S12	<p>BSc Biochemistry</p> <p><i>"I work for a biotechnology company that designs, produces and sells a variety of scientific products such as antibody labelling kits. I have built on theoretical knowledge from my degree to provide technical support to our customers, and on the practical laboratory skills introduced in my degree to perform R&D experiments, manufacturing and quality control essays."</i></p> <p>- Carly Hammond, BSc Biochemistry</p>	

Biochemistry is a broad and fascinating area of science, spanning many themes in biology, chemistry and even physics. That's why we've designed our Biochemistry degrees to give you plenty of choice in what you study – both the BSc and MSci include lots of optional modules, and their common first and second years allows you to switch between them once you've started studying.

All of our BSc and MSci degrees give you a more flexible second year, allowing you to choose the emphasis of your study. So you'll have plenty of scope to satisfy your interests in both biology and chemistry.

Study life and the chemistry that underpins it

The degree is taught by the School of Biological Sciences and the School of Chemistry, which gives you a flexible, diverse programme as well as the benefit of both Schools' world-renowned expertise.

You'll be taught the fundamental chemical principles that underlie biochemistry alongside aspects of cellular and molecular biology. This provides your foundation to study more specialist topics that address contemporary developments in the field, from medicinal chemistry and genetics to protein engineering and microbial biotechnology.

Course Structure

The degree is a three-year programme that consists of an in-depth introduction to fundamental biochemical science in the first year, followed by flexible second and third years that allow you to tailor your course depending on whether you wish to follow a more chemical or biological pathway or somewhere in between! In the final year, you'll enhance your knowledge of biochemistry as a modern research discipline and have the option to undertake an individual research project that will hone your expertise in an area that takes your interest.

First year

Compulsory Modules:

Fundamentals of Molecular Biology and Genetics

Fundamentals of Cell Biology and Biochemistry

Chemistry of Carbon-Based Compounds

Bonding, Structure and Periodicity

Practical and Quantitative Skills in Chemistry

Physical and Analytical Methods in the Biomolecular Sciences

Second year

Compulsory Modules:

Biochemistry

Molecular Biology

Biophysical Chemistry

Medicinal Chemistry

Optional Modules:

Cell Biology

Genetics

Organic Chemistry

Inorganic Chemistry

Third year

Compulsory Modules

Molecular Enzymology in Biology and Medicine

Protein Structure, Chemistry and Engineering
Research Project or Biology Research Skills

Optional Modules

2 optional modules from a range including:

Microbial Biotechnology

Genomes, Genes and Genomics

Infection and Immunity

Advanced Topics in Organic Chemistry

Inorganic Compounds: Structure and Function

Organic compounds: Synthesis and Properties

Microbiology

Practical lab-based teaching

Throughout the three-year course, you'll have regular access to our amazing facilities including state of the art undergraduate practical laboratories. Your research project may also benefit from access to our research electron microscopes, mass spectrometers and high-field nuclear magnetic resonance spectrometers.

We aim to give our students as much time in the lab as possible, so we're not just transferring knowledge but also developing skills. We believe hands-on experiments, backed by thought-provoking seminars and lectures, give you the best possible education.

Our students agree, having placed both Schools in the top 5 for student satisfaction in the NSS, with Biology ranking 1st in 2014.

Join a world-renowned research environment

The facilities and faculty at UEA are among the best in country – both Schools are internationally renowned for their research excellence thanks to their contributions to the big problems facing scientists today.

We're based at the heart of Norwich Research Park – the most cited scientific research centre outside of Oxbridge and London, which specialises in the life sciences. The School of Chemistry is ranked 4th in the UK for the quality of its research output, and 100% of our research in Biological Sciences is internationally recognised (REF 2014). This prestigious environment produces some ground-breaking research that has a real impact and gives our students access to academics at the top of their field.

BSc Biochemistry with a Year in Industry

"I work for a biotechnology company that designs, produces and sells a variety of scientific products such as antibody labelling kits. I have built on theoretical knowledge from my degree to provide technical support to our customers, and on the practical laboratory skills introduced in my degree to perform R&D experiments, manufacturing and quality control essays."

- Carly Hammond, BSc Biochemistry

Become a research pioneer

Biochemistry is a broad and fascinating area of science, spanning many themes in biology, chemistry and even physics. That's why we've designed our Biochemistry degrees to give you plenty of choice in what you study – both the BSc and MSci include lots of optional modules, and their common first and second years allows you to switch between them once you've started studying.

All of our BSc and MSci degrees give you a more flexible second year, allowing you to

choose the emphasis of your study and the chance to spend your entire third year working in industry. So you'll have plenty of scope to satisfy your interests in both biology and chemistry.

This course has also received Advanced Accreditation from the Society of Biology – an accolade only awarded to courses that contain a significant research element and 'educate the future leaders of research and development'. Studying at UEA means you'll not only be prepared for a future career, but will develop the skills to become a pioneer in your field.

Study life and the chemistry that underpins it

The degree is taught by the School of Biological Sciences and the School of Chemistry, which gives you a flexible, diverse programme as well as the benefit of both Schools' world-renowned expertise.

You'll be taught the fundamental chemical principles that underlie biochemistry, alongside aspects of cellular and molecular biology. This provides your foundation to study more specialist topics that address contemporary developments in the field, from medicinal chemistry and genetics to protein engineering and microbial biotechnology.

Course Structure

The degree is a four-year programme that consists of an in-depth introduction to fundamental biochemical science in the first year, followed by a more flexible year 2 that allows you to tailor your course depending on whether you wish to follow a more chemical or biological pathway or somewhere in between!

You'll spend your third year in employment or on a placement with an external company, giving you the chance to learn on the job and gain valuable experience before you enter the world of work.

In the final year, you'll enhance your knowledge of biochemistry as a modern research discipline and have the option to undertake an individual research project that will hone your expertise in an area that takes your interest.

First year

Compulsory Modules:

Fundamentals of Molecular Biology and Genetics

Fundamentals of Cell Biology and Biochemistry

Chemistry of Carbon-Based Compounds

Bonding, Structure and Periodicity

Practical and Quantitative Skills in Chemistry

Physical and Analytical Methods in the Biomolecular Sciences

Second year

Compulsory Modules:

Biochemistry

Molecular Biology

Biophysical Chemistry

Medicinal Chemistry

Optional Modules:

Cell Biology

Genetics

Organic Chemistry

Inorganic Chemistry

Third year

	<p>Year in industry</p> <p>Fourth year Compulsory Modules Molecular Enzymology in Biology and Medicine Protein Structure, Chemistry and Engineering Research Project or Biology Research Skills</p> <p>Optional Modules 2 optional modules from a range including: Microbial Biotechnology Genomes, Genes and Genomics Infection and Immunity Advanced Topics in Organic Chemistry Inorganic Compounds: Structure and Function Organic compounds: Synthesis and Properties Microbiology</p> <p>Practical lab-based teaching Throughout your time at UEA you'll have regular access to our amazing facilities including state of the art undergraduate practical laboratories. Your research project may also benefit from access to our research electron microscopes, mass spectrometers and high-field nuclear magnetic resonance spectrometers. We aim to give our students as much time in the lab as possible, so we're not just transferring knowledge but also developing skills. We believe hands-on experiments, backed by thought-provoking seminars and lectures, give you the best possible education. Our students agree, having placed both Schools in the top 5 for student satisfaction in the NSS, with Biology ranking 1st in 2014.</p> <p>The year in industry adds another layer of experience to the course, completing a well-rounded degree that includes varied teaching methods, a wide range of modules, the chance to customise your course and a head-start in the job market.</p> <p>Join a world-renowned research environment The facilities and faculty at UEA are among the best in country – both Schools are internationally renowned for their research excellence thanks to their contributions to the big problems facing scientists today. We're based at the heart of Norwich Research Park – the most cited scientific research centre outside of Oxbridge and London, which specialises in the life sciences. The School of Chemistry is ranked 4th in the UK for the quality of its research output, and 100% of our research in Biological Sciences is internationally recognised (REF 2014). This prestigious environment produces some ground-breaking research that has a real impact and gives our students access to academics at the top of their field.</p>
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****Please copy and paste the above table for additional (related) courses****

S13	RATIONALE FOR PROPOSAL
<i>note</i>	Please explain why you are proposing this/these new course(s) or these course

S13	amendments, and why this proposal is being offered at this time. See guidance notes for further indication of what to include in this section.
	<p>The current BSc Biological and Medicinal Chemistry course (C700, CHE) offers little to differentiate it from the BSc Biochemistry course (C700) offered by the School of Biological Sciences. This proposal arises from the desire to rationalize the University's offerings in this area through the amalgamation of these courses. In this process, the course profiles for C700 and C702 (BSc Biochemistry with a Year In Industry) have been redesigned to give a wider choice to students at stages 2 and 3, in principle allowing module choices consistent with both original courses while still satisfying subject-specific benchmark statements.</p>

UEA LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL

Part 2 BUSINESS CASE

note BC

BC1	ACADEMIC AND RECRUITMENT STRATEGY	Consult with HOS, Faculty Dean, PLN, ARM (including Admissions)
	NOT REQUIRED	

BC2 <i>note BC2</i>	MARKET RESEARCH	Consult with Market Research team
	NOT REQUIRED	

BC3 <i>note BC3</i>	MARKET DEMAND AND RECRUITMENT	Consult with Careers and Employability team
	NOT REQUIRED	

BC4 <i>note BC4</i>	STUDENT NUMBERS AND TUITION FEES	Consult with HOS, PLN, Faculty Dean, FFM
	NOT REQUIRED	

BC5	IMPACT					
BC5.1 <i>note BC5.1</i>	EQUALITY AND DIVERSITY	Consult with Equality & Diversity Manager and Widening Participation team				
a	Does the course and/or School cover a subject area(s) which traditionally attract(s) a very specific or narrow student profile?	<table border="1"> <tr> <td>YES</td> <td></td> </tr> <tr> <td>NO</td> <td>X</td> </tr> </table>	YES		NO	X
YES						
NO	X					
b	If yes, what steps will be taken to attract non-traditional students to the course/School? (Aspects to consider include: age, disability, ethnicity (home and international), gender, sexual orientation, religion and belief, and socio-economic group.)					
	N/A					
c	Will students undertake placements/ come into direct contact with vulnerable groups as part of their study? If so, will a CRB be required?					
	Student taking the Year in Industry course variant will undertake a placement but will not come into direct contact with vulnerable groups.					

BC 5.2 <i>note</i> BC5.2	CURRENT STUDENTS AND/OR APPLICANTS		
a	Have School SSLCs been consulted regarding this proposal? If YES, what has been their input/response?	YES	X
		NO	
b	Will any current students or applicants be affected by this proposal?	YES	
		NO (go to 5.3)	X
c	Evidence of consultation of current students and written consent obtained Please briefly describe what consultation has taken place and what responses there have been. Is there full support from all members of the relevant student cohort(s)?		
	Discussion of the proposed changes took place at BIO SSLC. Details were also circulated to CHE SSLC student representatives. No responses were received from representatives or current students in either School.		
d	Informing applicants What arrangements have been made (for informing applicants who may be affected by any change(s)? Written notification, including advice about any alternative options that may be given, must be sent to applicants holding unconditional/conditional firm or conditional insurance offers.		
	This is not applicable as current students will continue on their respective degree profiles until graduation.		
BC5.3 <i>note</i> BC5.3	ACADEMIC STAFF	Consult with HOS, Dean of Faculty	
	What is the impact / what are the resource implications of the proposal on academic staff?		
a	Please give an indicative number of <u>additional</u> teaching hours required within the school to deliver the new course/changes to the course in any one year		0
b	Is a new discipline or specialism being introduced that requires a new appointment?	YES	
		NO	X
c	Are new appointments required to meet any additional hours?	YES	
		NO	X
d	If yes to either b or c above, how many of what type (eg Teaching and Scholarship, Teaching and Research) and at what level?		
	N/A		
e	What is the source of funding for new academic staff?		
	N/A		
f	Are there any implications outside the sponsoring School/s e.g. service teaching, by other Schools of Studies?		
	No		
g	Are any other teaching adjustments required? For example, will new modules be introduced, other modules withdrawn or combined?		

	No		
BC5.4 <i>note</i> BC5.4	COURSE RATIONALISATION	Consult with HOS, Dean of relevant Faculties, PLN	
a	DO ANY SIMILAR COURSES ALREADY EXIST AT UEA?	YES	X
		NO	
	If YES, please specify Course name, UCAS Code(s) / Course codes		
	C700/U1C700302 C720/U1C720402		
b	IS/ARE ANY COURSE(S) TO BE CLOSED TO NEW APPLICANTS AS PART OF THIS PROPOSAL?	YES	X
		NO	
	If YES, please specify Course name, UCAS Code(s) / Course codes and date from which course(s) is to be withdrawn?		
	F125/U1F125302 and F154/U1F154402 , withdrawn for new entrants from 2016-2017		
c	Please give an indicative number of teaching hours <u>released</u> within the school in any one year by the closure of the courses listed above		0

BC6	PHYSICAL RESOURCES
	NOT REQUIRED

BC7 <i>note</i> BC7	IMPACT / RESOURCE IMPLICATIONS FOR OTHER UNIVERSITY SERVICES
	NOT REQUIRED

BC8	ADDITIONAL COMMENTS
	NOT REQUIRED

BC9	PROPOSER'S RESPONSE TO COMMENTS IN BC7 & BC8 ABOVE
	NOT REQUIRED

UEA LEARNING & TEACHING SERVICE

MINOR CHANGES COURSE PROPOSAL

Part 3 ACADEMIC CASE (including Programme Specification)

AC1	COURSE MANAGEMENT INFORMATION				
AC1.1	REGULATORY FRAMEWORK (please tick all that apply)				
	Undergraduate Regulations (including Integrated Masters)				X
	Postgraduate Taught Regulations				
	Graduate Diplomas				
	PGCE				
AC1.2a	Is the course as a whole assessed on a pass/fail basis?	YES		NO	X
AC1.2b	Are any modules assessed on a pass/fail basis?	YES	X	NO	
AC1.2c	If so, how many modules and what is the credit volume for each module?				
	For BSc Biochemistry with a Year in Industry the placement module (BIO-6024Y, 120 credits) is assessed as pass/fail.				

AC2 <i>note AC2.1</i>	YEAR WEIGHTINGS AND PROGRESSION REQUIREMENTS (For undergraduate or integrated masters courses only)				
	Please select only from the permitted options - see UG/PGT regulations				
Stage <i>Note AC2.2</i>	Level	Year of course	Weightings	Progression requirement	Exit Award <i>Note AC2.3</i>
Stage 0	Level 3				
Stage 1	Level 4		0	40	Cert HE
Stage 2	Level 5		40	40	Dip HE
Year Abroad / in Industry			0	Pass	Dip HE
Stage 3	Level 6		60	40	BSc
Stage M	Level 7				

AC3	BOARD OF EXAMINERS				
AC3.1	Is there an existing Board of Examiners?	YES	X	NO	
AC3.2a	If YES, which existing board will be responsible for the course?	BIO			
AC3.2b	If NO, please enter details for new board of examiners				
	Are any new external examiner(s) required?	YES		NO	X

AC3.3b	If yes, how many?	
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PS	PROGRAMME SPECIFICATION
<i>note</i> <i>PS</i>	This part of the form will serve a dual purpose. Please read the guidance note carefully before completing
PLEASE ATTACH AN UPDATED PROGRAMME SPECIFICATION WITH TRACKED CHANGES SHOWING AMENDMENTS TO THE COURSE	

AC4	MODULE OUTLINES FOR EXISTING COMPULSORY MODULES
	NOT REQUIRED

AC5	MINOR CHANGES TO EXISTING MODULES
	NOT REQUIRED

AC6	NEW MODULES
	NOT REQUIRED

AC 7 <i>note</i> <i>AC7</i>	DEFINED CHOICE
	NOT REQUIRED

AC8 <i>note</i> <i>AC8</i>	JOINT COURSES						
	<table border="1"> <tr> <td>Is the proposed course is a joint course?</td> <td>YES</td> <td>X</td> </tr> <tr> <td></td> <td>NO</td> <td></td> </tr> </table>	Is the proposed course is a joint course?	YES	X		NO	
Is the proposed course is a joint course?	YES	X					
	NO						
	If YES, how will the student experience be managed?						
	Students will participate in the BIO School induction programme at the start of their courses. They will also take part in elements of the CHE induction programme and have separate briefings organized by the CDs in week 1 of semester the objective of which will be to 'bridge the gap' between the two Schools. Further information is provided in the Additional Information statement (attached).						

AC9	COMMENTS/FEEDBACK FROM EXTERNAL PROFESSIONALS/ BODIES			
	<table border="1"> <tr> <td>Is this course accredited or validated by a Professional, Statutory or Regulatory Body</td> <td>YES</td> <td>X for Year in Industry</td> </tr> </table>	Is this course accredited or validated by a Professional, Statutory or Regulatory Body	YES	X for Year in Industry
Is this course accredited or validated by a Professional, Statutory or Regulatory Body	YES	X for Year in Industry		

	(PSRB)?		course
		NO	
	If NO, go to AC10		
<i>note AC9</i>	If YES, please provide a summary of Professional, Statutory or Regulatory Body (PSRB) approval, if appropriate. Append any relevant documents as Appendix 3		
	<p>The BSc(Hons) Biochemistry with a Year in Industry has obtained Advanced Accreditation from the Society of Biology. Details about the programmes with Advanced Accreditation can be seen at: https://societyofbiology.org/education/accreditation/advanced-degree-accreditation/advanced-accredited-programmes</p>		

AC10	COMMENTS ON ACADEMIC CASE AND PROGRAMME SPECIFICATION		
COMPLETION OF THIS SECTION TO BE COORDINATED BY LEARNING AND TEACHING SERVICE (LTS) COORDINATOR			
<i>note AC10</i>	<p>Please circulate Parts 1, 3 & 4 to the following for their additional comments (if any). Comments to be returned to proposer within 10 working days.</p> <p>NB these comments should focus on the <i>ACADEMIC CONTENT</i> of the proposal</p>		
Date of circulation:	12/05/2015		
AC10.1	Careers Manager (CCEN)		
No response received			
AC10.2	Learning & Teaching Service (LTS) Manager (UG or PGT, as appropriate)		
<p>From: Michele Pavey (LTS) Sent: Wednesday, May 27, 2015 5:55 PM Subject: RE: Minor Course Change Proposal - BSc and MSci Biochemistry</p> <p>The only comment I have is that it should be made clear somewhere on the minor course proposal forms that BIO is the lead School (which I think is the case even though it runs across both).</p> <p>Michele Pavey, 28/05/2015</p>			
AC10.2	Equality & Diversity Manager (PPE)		
No response received			

AC11	PROPOSER'S RESPONSE TO COMMENTS IN AC9 & AC10 ABOVE		
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note
AC11

From: Karin Goodby (LTS)
Sent: Monday, May 11, 2015 4:05 PM
To: Andrew Hemmings (CHE)
Cc: Carole Bull (LTS)
Subject: FW: Minor Course Change Proposal - BSc Biochemistry
Importance: High

Hi Andrew,

Thanks for sending the course proposals to Carole.

Can I just check some queries with you before circulating to colleagues as per section A10:

- Where the Course Proposal form refers to School of study, are you happy for me to amend to 'Biological Sciences' to reflect that the courses will be housed within BIO (as per the letter of support from Tamas Dalmay)?
- Biochemistry currently has a part-time variant (U1C700602). Will this continue or not?

Many thanks
Karin

From: Andrew Hemmings (CHE)
Sent: Monday, May 11, 2015 5:56 PM
To: Karin Goodby (LTS)
Cc: Carole Bull (LTS)
Subject: RE: Minor Course Change Proposal - BSc Biochemistry

Hi Karin

1. Yes, it's OK to change School of study to BIO.
2. There is only one P/T biochemistry student and she will complete at the end of 2015/16. It is my intention is to seek to close the course at that point and I will be bringing this proposal to BIO teaching executive.

Andrew

MINOR CHANGES COURSE PROPOSAL**Part 4 KEY INFORMATION SET (KIS) DATA****SCI BIO BSc Biochemistry**

KIS	KEY INFORMATION SET data (undergraduate courses only)						<i>Note KIS</i>
KIS1	Quantitative KIS data						<i>Note KIS1</i>
		Year 1	Year 2	Year 3	Year 4	Year 5	
1.1	Percentage of assessment by written exams	60	60	50			
1.2	Percentage of assessment by practical exams	0	0	0			
1.3	Percentage of assessment by coursework	40	40	50			
1.4	Percentage of time in scheduled learning and teaching activities	42	40	32			
1.5	Percentage of time in guided independent study	58	60	68			
1.6	Percentage of time on placements	0	0	0			
KIS2	Professional Accreditation						<i>Note KIS2</i>
2.1	Name of accrediting body (if applicable)						
	None						
2.2	Please give details, including any memberships, exemptions etc that the award confers. Please also give accrediting body website URL.						
2.3	Is the accreditation dependent on specific module choices? If so, please include URL of web pages where these details are outlined.						

SCI BIO BSc Biochemistry with a Year in Industry

KIS	KEY INFORMATION SET data (undergraduate courses only)						Note KIS
KIS1	Quantitative KIS data						Note KIS1
		Year 1	Year 2	Year 3	Year 4	Year 5	
1.1	Percentage of assessment by written exams	60	60	0	50		
1.2	Percentage of assessment by practical exams	0	0	0	0		
1.3	Percentage of assessment by coursework	40	40	100	50		
1.4	Percentage of time in scheduled learning and teaching activities	42	40	0	32		
1.5	Percentage of time in guided independent study	58	60	0	68		
1.6	Percentage of time on placements	0	0	100	0		
KIS2	Professional Accreditation						Note KIS2
2.1	Name of accrediting body (if applicable)						
	Society of Biology						
2.2	Please give details, including any memberships, exemptions etc that the award confers. Please also give accrediting body website URL.						
	http://www.societyofbiology.org/ Students who graduate from the Biochemistry with a Year in Industry course will be able to become a Member of the Society of Biology after two further years of work or professional practice, rather than the usual three that are required.						
2.3	Is the accreditation dependent on specific module choices? If so, please include URL of web pages where these details are outlined.						
	Yes, BIO-6024Y. To obtain Advanced Accreditation from the Society of Biology the criteria are: "Inclusion of a substantial period of research experience outside the normal learning environment in a professional working structure is essential to advanced accreditation. This should be considered normal practice for advanced accredited degree programmes. The period of practice will: <ul style="list-style-type: none"> •Allow students to apply their learned knowledge to their own supervised research in an active research environment •Draw upon theoretical knowledge and skills acquired during their degree •Normally be equivalent to 80 credits; typically lasting 6 - 12 months •Involve appropriate assessment, including a written report •Include significant contact from the HEI" Further details are provided at: http://societyofbiology.org/education/accreditation/advanced-degree-accreditation/apply-for-advanced-accreditation/assessment-criteria						

	<p>For the Biochemistry with a Year in Industry course, the research placement is undertaken during module BIO-6024Y.</p>
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MINOR CHANGES COURSE PROPOSAL**Part 5 APPROVALS AND NOTIFICATION****APPROVALS***Note AP*

THIS SECTION WILL BE COORDINATED BY THE SECRETARY TO YOUR FACULTY TEACHING AND LEARNING QUALITY COMMITTEE (FLTQC)				
AP1	APPROVAL OF THE BUSINESS CASE			
	APPROVAL/SIGNATURES	Name	Signature/ evidence of approval	Date
AP1.1	School Director of Learning, Teaching and Quality			
AP1.2	Head of School (on behalf of School Board)			
AP1.3	Dean of Faculty (on behalf of Faculty Executive)			
AP1.4	LTC (if relevant)			
AP1.5	Council (if relevant)			
AP1.6	Reasons for approval being withheld (and by whom)			

AP2	APPROVAL OF THE ACADEMIC CASE			
AP2.1	Head of School	Name	Signature	Date
	Approved:			29 Oct 2015
	<p>From: Tamas Dalmay (BIO) Sent: 29 October 2015 15:15 To: LTS Co-ordinators ENV NBS BIO UG Subject: Re: Minor Course Proposals BSc Biochemistry with Year in Industry and MSci Biochemistry with a Year Abroad</p> <p>I approve the Academic Case of Minor Course Proposals for:</p> <ul style="list-style-type: none"> · BSc Biochemistry and BSc Biochemistry with a Year in Industry · MSci Biochemistry and MSci Biochemistry with a Year Abroad <p>Tamas Dalmay</p>			

	Approved with amendments:			
	Rejected:			
	Comments (if any):			
AP2.2	Faculty Associate Dean (for Faculty LTQC)	Name	Signature	Date
	Approved:	David Stevens		29 Oct 2015
	From:	David Stevens (MTH)		
	Sent:	29 October 2015 15:56		
	To:	LTS Co-ordinators ENV NBS BIO UG		
	Cc:	David Stevens (MTH); Tamas Dalmay (BIO); David Stevens (MTH); Andrew Hemmings (CHE); Ben Milner (CMP)		
	Subject:	Re: Minor Course Proposals BSc Biochemistry with Year in Industry and MSci Biochemistry with a Year Abroad		
	Dear Alex,			
	I am happy to approve these programmes as they play an important role in streamlining our offering in biochemistry.			
	Best wishes, Dave			
	Approved with amendments:			
	Rejected:			
	Comments (if any):			
AP2.3	PVC Academic (for LTC)	Name	Signature	Date
	Approved:			
	Approved with amendments:			
	Rejected:			
	Comments (if any):			
Where applicable:				

AP2.4	Secretary to Council	Name	Signature	Date
	Approved:			
	Approved with amendments:			
	Rejected:			
	Comments (if any):			

MINOR CHANGES COURSE PROPOSAL

Note N1				NOTIFICATION OF APPROVAL	
This section should be completed by Faculty FLTQC Secretary once a course proposal has been approved. Its purpose is to ensure that relevant Offices are informed of the approval of course proposals (new courses and course amendments), in accordance with the procedures for course approval.					
FACULTY		Faculty of Science		SCHOOL	
				School of Biological Sciences	
NEW COURSE?		Y	N	If NO, please enter existing course code	
				U1C700302 U1C720402	
DEGREE AWARD (e.g. BSc/MA)			BSc		
TITLE OF PROGRAMME			Biochemistry Biochemistry with a Year in Industry		
START DATE		2016-2017		LENGTH OF COURSE	
				3 years (4 years U1C720402)	
Course Approved by:		Name of Committee Chair		Date of approval	
Faculty Learning and Teaching Quality Committee (FLTQC)		David Stevens		29 Oct 2015	
Learning and Teaching Committee (LTC)					
RELEVANT OFFICE INFORMED? *insert date					
Planning Office		Admissions and Marketing		Learning and Teaching Service	
				Union of UEA Students	
29 Oct 2015		29 Oct 2015		29 Oct 2015	
sis.records@uea.ac.uk		arm.operations@uea.ac.uk		Email the LTS coordinator responsible for the course	
				union.academic@uea.ac.uk	

Note N1		IMPLEMENTATION ACTIONS	
COURSE NAME		NEW ROUTE CODE	
ACTION		DATE	
COURSE INFORMATION LIVE IN ADMISSIONS			
PROGRAMME SPECIFICATION UPLOADED ONTO WEBSITE			
COURSE PROFILE UPLOADED ONTO SITS			
COURSE CLOSURES COMMENCED (where appropriate)			