

## APPLICATION FOR FULL APPROVAL: POSTGRADUATE PROGRAMME SPECIFICATION

Please note that the information contained in the final approved version of this programme specification will be published by HYMS at [www.hyms.ac.uk](http://www.hyms.ac.uk)

HYMS Postgraduate Programmes will be jointly awarded by the University of Hull and the University of York.

The published guidance notes should be used to assist the completion of this form.

THIS PROPOSAL **MUST** BE SUPPORTED BY ANY CVS (of non-HYMS staff) NOT SUBMITTED WITH THE PLANNING PERMISSION APPLICATION FOR STAFF WHO WILL DELIVER THE PROGRAMME.

<b>1</b>	<b>Name of proposer/coordinator</b>	Paul O'Higgins, HYMS
<b>2</b>	<b>Team members</b> <i>CVs (non-HYMS staff) must be submitted for each team member if not already provided as part of the planning permission application (where this is the case, please indicate by insertion of * after the name)</i>	Laura Fitton, HYMS (Programme Leader) Sam Cobb, HYMS Phil Cox, HYMS
<b>3</b>	<b>Title of programme</b> <i>Must be per planning permission approval</i>	MSc in Human Evolution
<b>4</b>	<b>Award</b>	MSc  For candidates who wish to leave the programme prior to the completion of MSc (180 credits), a Diploma (120 credits) and Certificate (60 credits) are available as exit awards (note that HYMS will not normally admit students simply to take either Diploma or Certificate). Diploma and Certificate candidates will not undertake the research project. As the research project counts for 80 credits, those wishing to take the Diploma as an exit award will be asked to complete an additional 20 credit module to gain the requisite 120 credits.
<b>5</b>	<b>Level</b>	7 (postgraduate taught Masters level)
<b>6</b>	<b>Will this programme only be run on a part-time basis?</b> <i>Delete as applicable</i>	No
<b>7</b>	<b>Duration (total number of years)</b>	1 year full time (2 years part-time if offered)
<b>8</b>	<b>Where will the programme be delivered?</b>	York campus (HYMS and Archaeology)

9	<b>Accrediting Professional / Statutory Body (if applicable)</b>	N/A
10	<b>Entry requirements</b>	Good Honours degree or equivalent (per HYMS taught MSc programme regulations) in relevant discipline
11	<b>Aims of the programme</b> <i>Highlight aims</i>	The aims of this programme are: a) to provide students with a detailed understanding of human evolution, including the evolution of our closest relatives, the primates, with a particular focus on anatomy and morphology and their interface with ecology and behaviour. b) to provide students with practical and theoretical knowledge about the battery of cutting edge tools and approaches used to interpret the fossil record. c) enable students to undertake a detailed research project in human evolution, applying the skills and knowledge acquired in the programme to investigate current questions in human evolution.
12	<b>Distinctive features and/or fit with existing provision</b> <i>Distinctive features and describe any links with other provision</i>	It replaces no existing programme. It will share modules with the proposed HYMS MSc in Clinical Anatomy. There is no competition with other departments at Hull or York; it complements provision in the Archaeology Department at York and its development is fully supported by it. The HYMS MSc in Human Evolution will be unique in its focus on modern imaging and quantitative methods. The emergence of PALAEO at York will have positive effects on marketing; this is a truly interdisciplinary programme and offers unique training in cross cutting methodologies.
13	<b>References used in designing the programme</b> <i>Append comments from the external assessor and indicate the external consultation which has taken place, e.g. with professional bodies, employers, graduates and current students, and to demonstrate that barriers to study have been addressed. This should be specific to educational content and not simply duplicate material provided in the planning permission application</i>	A report from the External Assessor, Professor Christopher Dean (UCL) is attached to this document.
14	<b>Minimum number of students</b> <i>Must be per planning permission approval</i>	5 in year 1 rising to 12 in year 4

15	<b>Programme learning outcomes</b> <i>Reference the relevant subject benchmark statement(s) for each outcome (in brackets after each outcome e.g. i, ii, iii, iv).</i>	<b>To our knowledge, there are no benchmark statements for MSc level in Biological</b>
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<b>Anthropology</b>	
State supporting learning, teaching and assessment strategies for each group of outcomes.	
<b>a</b>	<b>Knowledge and understanding</b>
<ol style="list-style-type: none"> <li>1. Discuss and appraise the ways in which fossil material can inform reconstructions of human evolution with regard to phylogeny, ontogeny, function, social organisation and ecology.</li> <li>2. Describe in detail the methods used in human evolution research and explain the limitations of these methods.</li> <li>3. Describe in detail the microstructure, growth and development of hard tissues (bones and teeth) with particular reference to form, function and adaptation.</li> </ol>	<p><b>Teaching and learning methods/strategies:</b> <i>Explain how this supports students in obtaining the knowledge and understanding set out in the adjacent column</i></p> <p>Lectures, seminars, practical classes, workshops and self directed learning all allow students to gain knowledge and understanding in different ways according to learning style.</p> <p><b>Assessment:</b> <i>Explain how this enables students to demonstrate knowledge and understanding</i></p> <p>Project and practical work enable students to show knowledge in an applied fashion and promote deep understanding of the material by engaging with it on a practical level. Examinations and timed essays allow students to synthesise knowledge from a variety of topics, including across modules where appropriate, producing a synoptic perspective on the knowledge gained in the programme. Peer-assessed seminars allow students to present their knowledge and understanding verbally and assess it against their peers in an active way.</p>
<b>b</b>	<b>Intellectual skills</b>
<ol style="list-style-type: none"> <li>4. Critically analyse the different theories of primate origins and relate and compare the evolution and ecology of non-human primates to hominins and humans.</li> <li>5. Describe, synthesise and critically evaluate current views of human and primate evolutionary origins, the fossil evidence, and the environmental and ecological factors that influenced human and primate evolution.</li> </ol>	<p><b>Teaching and learning methods/strategies:</b> Seminars and journal discussions allow students to develop their skills of critical evaluation over time and in different contexts / on different topics that may require particular types of analysis.</p> <p><b>Assessment</b></p> <p>Exams and timed essays allow students to articulate their own critical analysis and evaluation, as well as apply knowledge to a range of questions, some of which might not have been previously considered, hence promoting flexible, engaged thinking that results from deep learning. Project write-ups allow students to evaluate the literature in a structured fashion and with respect to their own novel research and thinking.</p>

<b>C</b>	<b>Practical/Professional skills</b>	
	6. Formulate research questions, design and carry out a research project examining an aspect of human evolution, including evaluating research findings and recognising the limitations of specific approaches.	<p><b>Teaching and learning methods/strategies:</b></p> <p>Practical and workshop session impart practical skills of research design, analysis and interpretation. Seminars promote evaluation.</p> <p><b>Assessment</b></p> <p>Project work allows students to demonstrate practical skills</p>
<b>d</b>	<b>Transferable skills</b>	
	7. Present their work verbally and in writing in structured, coherent and scientific ways appropriate to the material, dissemination medium and audience.	<p><b>Teaching and learning methods/strategies:</b></p> <p>Seminars and presentation sessions facilitate this, and tutorials and workshops will help students choose the most effective communication style for their audience (for example, by training in scientific writing).</p> <p><b>Assessment</b></p> <p>Poster and oral presentation sessions allow students to show their acquisition of verbal and visual presentation skills. Written work, from timed essay to dissertations, allow students to show their written communication skills in a range of contexts.</p>

<b>16</b>	<p><b>How many new modules are required as part of this programme?</b></p> <p><i>Please list new modules</i></p>	<p>Six new modules:</p> <ol style="list-style-type: none"> <li>1. Human Evolutionary Anatomy</li> <li>2. Hard Tissue Biology</li> <li>3. Virtual Anatomies</li> <li>4. Primate Ecology and Evolution</li> <li>5. Functional and Musculoskeletal Anatomy</li> <li>6. Research Project / Dissertation</li> </ol>
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<b>17a</b>	<p><b>Programme structure</b></p> <p><i>Insert details of modules below (and of their credit value) within each stage of the programme (as per planning permission application). See the guidance notes for an example.</i></p>	
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<b>Code/ New</b>	<b>Title</b>	<b>Core/ Option al</b>	<b>Credits</b>	<b>Level</b>	<b>Non- compensatable</b>
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New	Human evolutionary Anatomy	C	20	7	N
New	Hard Tissue Biology	C	20	7	N
New	Virtual Anatomies	O	10	7	N
New	Primate Ecology and Evolution	C	20	7	N
New	Functional and Musculoskeletal Anatomy	O	20	7	N
New	Research Project / Dissertation	C	80	7	Y
0980004	Geometric morphometrics	O	10	7	N
4480806	Becoming Human: Evolving minds and societies	O	20	7	N
4480855	Ancient Biomolecules	O	20	7	N

<b>17b</b>	<p><b>Programme diagram [desirable] – very useful in giving a synoptic view</b>  <i>Provide a diagram of the Programme structure showing core and optional modules, short (contained mostly within one term) and long (spread across terms - perhaps over a year) modules, ‘thin’ (low [ish] credit value - 5, 10 etc) and ‘fat’ (large [ish] credit value - 15, 20, 30 etc) modules and timing of each module.</i></p>
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### Human Evolution MSc – 1 year full time (over the full twelve months)

Term 1	Term 2	Term 3
Primate Ecology and Evolution [core] (20 credits)	Human Evolutionary Anatomy [core] (20 credits)	
Hard Tissue Biology [core] (20 credits)	Functional and Musculoskeletal Anatomy [optional] (20 credits) OR Ancient Biomolecules [optional] (20 credits)	
Geometric Morphometrics (10 credits) and Virtual Anatomies (10 credits) [optional] OR Becoming Human: Evolving minds and societies (20 credits)	Research project / dissertation [core] (80 credits, submitted in September so students are expected to work over the summer)	

18a	<p><b>Rationale for inclusion of existing module(s)</b> Explain why each existing module (in 17) should be included in the proposed programme.</p>	<p>Geometric Morphometrics fits perfectly with the aims of the programme and was developed with the MSc in Human Evolution in mind. The two Archaeology modules (Becoming Human and Biomolecules) offer important choices for students who wish to develop a more archaeological focus as well as providing integration with the Archaeology Department at York.</p>
18b	<p><b>Rationale for the development of a new module(s).</b> Explain what is missing from existing delivery.</p>	<p>Currently, no similar programmes to Human Evolution are offered by either University, so new modules in the topics detailed must be developed.</p>

19a Programme assessment mapping				
Programme outcomes	Module outcomes	Assessment	Assessment	Assessment
<p>I. Discuss and appraise the ways in which fossil material can inform reconstructions of human evolution with regard to phylogeny, ontogeny, function, social organisation and ecology.</p>	<p>Critically analyse the use of hominin anatomy in taxonomic and phylogenetic analysis.</p>	<p>Essay</p>	<p>Unseen exam</p>	<p>Practicals</p>
	<p>Critically analyse the use of indirect evidence to interpret and investigate hominin anatomy and function.</p>	<p>Oral exam and presentation</p>	<p>Multiple choice test</p>	<p>Practicals</p>
	<p>Identify and name bony features, muscles and muscle groups giving details of innervation of muscles.</p>	<p>Oral exam and presentation</p>	<p>Multiple choice test</p>	<p>Practicals</p>
	<p>Critically assess and give an account of the function of major muscle groups and muscles</p>			<p>Practicals</p>
	<p>Critically assess and give an</p>	<p>Oral exam and presentation</p>	<p>Multiple choice test Multiple choice</p>	<p>Practicals</p>

	<p>account of the function of bones of the limbs, spine and masticatory system</p> <p>Critically relate details of musculoskeletal form and function to evolutionary and developmental history</p> <p>Critically appraise the extent to which skeletal and muscular features reflect functional vs genetic signals.</p> <p>Have developed an understanding of the key phases in the evolution of human cognitive abilities</p> <p>Have developed an understanding of the key phases in the evolution of human social systems</p> <p>Have developed a familiarity with some of the archaeological evidence for Lower and Middle Palaeolithic societies</p>	<p>Oral exam and presentation</p> <p>Oral exam and presentation</p> <p>Essay</p> <p>Essay</p> <p>Essay</p>	<p>test Multiple choice test</p> <p>Multiple choice test</p>	
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2. Describe in detail the methods used in human evolution research and explain the limitations of these methods.	Critically analyse the methods used for functional interpretation of fossil hominin anatomy.	Essay		
	Critically assess the utility of skeletal and dental hard tissues for the recovery of growth, development and life history information	Essay	Unseen exam	
	Critically appraise imaging modalities in relation to the scientific question at hand.	Student-led seminars / discussions		Unseen exam
	Critically assess the benefits and drawbacks of different approaches to image reconstruction including, segmentation, warping, reflection and symmetry methods.	Student-led seminars / discussions		
	Provide a critical appraisal of MDA in relation to simulation of function	Student-led seminars / discussions		
	Provide a critical appraisal of	Student-led seminars / discussions		



	<p>FEA in relation to simulation of function</p> <p>Indicate how MDA, FEA and morphometrics might combine in studies of musculoskeletal form and function, critically evaluating these potential combinations.</p> <p>Synthesise and critically evaluate the methods used to reconstruct the palaeobiologies and palaeoecology of extinct organisms.</p> <p>Be able to recognise the methodological strengths and limitations of various (ancient biomolecule) techniques</p> <p>Be able to recommend applications where biomolecular analysis is likely to be useful</p> <p>Know how to select, conserve and take samples for biomolecular investigations</p> <p>Outline the key methodologies</p>	<p>Student-led seminars / discussions</p> <p>Unseen exam</p> <p>Essay</p> <p>Essay</p> <p>Essay</p> <p>Individual</p>		
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	<p>for data acquisition in GMM</p> <p>Outline the motivation and key methodologies for the measurement of biological form with emphasis on landmark data</p> <p>Outline the fundamentals of Geometric morphometric methods; GPA, TPS, Shape spaces</p>	<p>project</p> <p>Individual project</p> <p>Individual project</p>		
<p>3. Describe in detail the microstructure, growth and development of hard tissues (bones and teeth) with particular reference to form, function and adaptation.</p>	<p>Describe in detail the structure of skeletal and dental hard tissues</p> <p>Critically appraise the function and mechanical properties of skeletal and dental hard tissues</p> <p>Describe in detail the growth and development of skeletal and dental hard tissues and relate this to form</p> <p>Identify the structure and function of the interface between mineralised and unmineralised skeletal and</p>	<p>Essay</p> <p>Essay</p> <p>Essay</p> <p>Essay</p>	<p>Unseen exam</p> <p>Unseen exam</p> <p>Unseen exam</p> <p>Unseen exam</p>	

	dental tissues			
4. Describe, synthesise and critically evaluate current views of human and primate evolutionary origins, the fossil evidence, and the environmental and ecological factors that influenced human and primate evolution.	Apply evolutionary principles to the study of hominin anatomical material.	Essay		
		Essay		
	Describe the anatomical evidence in the hominin fossil record	Unseen exam		
	Apply evolutionary and ecological principles to the study of primates and appreciate how this may differ between modern and extinct groups.	Unseen exam		
	Discuss how taxonomy and evolutionary history shape diet, habitat use, behaviour, community structure and other ecological factors.		Unseen exam	
	Critically analyse the different theories of primate origins and evolution	Unseen exam		Individual project
	Undertake a detailed literature review within a given topic and synthesise and critically evaluate this literature.	Other types of extended writing		

	Be able to critically evaluate past studies for scientific rigour, cost and knowledge gained	Essay		
5. Critically analyse the different theories of primate origins and relate and compare the evolution and ecology of non-human primates to hominins and humans	Describe in detail the major extant and extinct radiations of primates, including their chronologies and biogeography, and highlighting where there are gaps in knowledge.  Relate and compare the evolution and ecology of non-human primates to hominins and modern humans.	Unseen exam  Unseen exam		
6. Formulate research questions, design and carry out a research project examining an aspect of human evolution, including evaluating research findings and recognising the limitations of specific approaches.	Formulate questions about hominin evolutionary anatomy and devise a means to investigate them.  Use appropriate methods to reconstruct a 3D virtual musculoskeletal image.  Appraise the current state of research into primate ecology and evolution and identify	Essay  Practical work  Individual project	Unseen exam  Unseen exam	

	areas essential for future research	Individual project		
	Formulate questions about primate evolution and ecology and devise a means to investigate them.	Other types of extended writing	Dissertation	
	Formulate a research question	Other types of extended writing	Dissertation	
	Design a research project within a scientific framework	Other types of extended writing	Dissertation	
	Collect or collate and statistically analyse appropriate data	Dissertation		
	Interpret research findings, and put them into context with existing knowledge on similar topics	Dissertation		
	Evaluate their research findings and recognise the limitations of their approach	Dissertation		
	Present a detailed, critical and sophisticated account of a given topic within human evolution	Dissertation		
	Manage time effectively	Dissertation		

	<p>Be able to interpret published data sets</p> <p>Apply appropriate statistical methods in analyses of variation, covariations with form, and analyses of differences between groups</p>	<p>Essay</p> <p>Individual project</p>		
7. Present their work verbally and in writing in structured, coherent and scientific ways appropriate to the material, dissemination medium and audience.	<p>Present their research findings in a coherent, structured and scientific manner, in both written and verbal forms</p> <p>Defend their research findings to peers and others</p>	<p>Oral presentation</p> <p>Oral presentation</p>	Dissertation	

<b>19b</b>	<b>Curriculum and Assessment Mapping – Table A and B</b> <i>Complete Table A and B attached (see guidance notes)</i>
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<b>20</b>	<b>Other sources of information about/and support for this programme</b> <i>For example student handbook, departmental web, VLE</i>	Handbook based on HYMS template, VLE
<b>21</b>	<b>Particular support for learning</b> <i>For example induction, supervisor system, PDPs, arrangements for students with disabilities</i>	Students will be inducted at the beginning of the programme and will be assigned a personal / pastoral tutor. Project students will have a dissertation advisory panel. Voluntary PDP and career planning will be available via the HYMS Postgraduate Centre VLE resources, open to PGR and PGT students.
<b>22</b>	<b>Indicators of quality and standards</b> <i>Feedback in appropriate area e.g. external accreditation, periodic reviews, external examiner feedback, HE Academy</i>	External examiner feedback; student evaluation; periodic reviews
<b>23</b>	<b>Methods for evaluating and improving the quality of learning</b>	Team teaching allows peer observation and feedback; student evaluations, sharing archaeology

	<i>For example peer observation, staff development, annual monitoring, student feedback</i>	best practice.
24	<b>Identify any ethical and/or health and safety issues that relate to this programme's teaching and assessment (supporting material may be monitored from time to time)</b>	Project work has potential health and safety and ethical implications. Students will be asked to conduct a risk and ethical assessment as part of their project proposals. Different projects will have different ethical and health and safety implications, which will be considered on an individual basis. Projects requiring ethical approval will be considered by the HYMS Ethics Committee early in the Spring Term. Projects with unusual / severe risks will be discussed with the HYMS Health and Safety Officer / the Universities as appropriate.
25	<b>Tick here to confirm that the Programme Specification is complete.</b>	Tick

**TABLE A: Programme Curriculum Map** (demonstrating which programme outcomes are delivered in each module)

**Make sure you use the numbers given in section 15 for your Programme Learning Outcomes**

**Outcomes key**

i (a) – Knowledge and Learning outcome 1

ii(a) – Knowledge and Learning outcome 2

iii(a,b,c,d) if applicable

i(b) – Intellectual skills outcome 1

ii(b) – Intellectual skills outcome 2

i(c) – Practice/Professional skills outcome 1

ii(c) – Practice/Professional skills outcome 2

i(d) – Transferable skills outcome 1

ii(d) – Transferable skills outcome 2

Module name	Learning Outcomes																		
	Code	Level	1(a)	2(a)	3(a)	4(b)	5 (b)	6 (c)	7 (d)										
Human Evolutionary Anatomy	New	7	x	x		x		x											
Hard Tissue Biology	New	7		x	x														
Virtual Anatomies	New	7		x				x											
Primate Ecology and Evolution	New	7		x		x	x	x											
Functional and Musculoskeletal Anatomy	New	7	x																
Research Project / Dissertation	New	7				x		x	x										
Ancient	448085	7		x		x		x											



Biomolecules	5																		
Becoming Human	448080 6	7	x																
Geometric morphometrics	TBC	7		x				x											

**TABLE B: Programme Assessment Methods Matrix**

Modules should not be over assessed. There is no need to use the full range of assessment methods for each module, although it is recommended that over the course of the programme multiple assessment strategies are used.

Assessment Method	Human Evolutionary Anatomy	Hard Tissue Biology	Virtual Anatomies	Primate Ecology and Evolution	Functional and Musculoskeletal Anatomy	Research Project / Dissertation	Ancient Biomolecules	Becoming Human	Geometric morphometrics
Learning Portfolios									
Essay Assignments	x	x					x	x	
Group Projects									
Independent projects				x		x			x
Unseen Examinations	x	x		x					
Unseen laboratory/ workshop examinations									
Oral Examinations					x				
Open-book Examinations									
Fieldwork Reports									
Design Tasks									
Practicals			x		x				
Exhibitions									
Work Placement Reports									
Computer-based Exercises									

Multiple Choice Tests					x				
Synoptic exam									
Student led Seminars/discussions			x						
Problem Solving Exercises									
Other types of extended writing						x			
Oral Presentations					x	x			
Assessment of practice									

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**Office use only - for completion by the HYMS Postgraduate Centre****Business approval**

Date proposal initially seen by Postgraduate Programmes Board	
Date of approval by Planning Committee	
Date of approval by HYMS Management Board	
Date of approval by HYMS Joint Board	

**Educational Approval****1. Postgraduate Programme Board**

Date sent to Postgraduate Programme Board	15/4/2011
Comments from Postgraduate Programme Board and date sent to proposer	5/5/2011
Date of approval by Postgraduate Programme Board	06/05/2011, revision approved on 24/05/2012

**2. External Reviewer**

Name of external reviewer and date sent to s/he	15/4/2011
Comments from external reviewer and date sent to proposer	5/5/2011
Has the proposal been amended in light of external review?	Yes      Date: 5/5/2011

**3. HYMS Board of Studies**

Date sent to HYMS Board of Studies	23/05/2011
Comments from HYMS Board of Studies and date sent to proposer	25/05/2011
Date of approval by HYMS Board of Studies	25/05/2011, revision approved on 28/05/2012

**4. HYMS Joint Teaching and Learning Committee (JT&LC)**

Date sent to HYMS JT&LC	07/06/2011
Comments from HYMS JT&LC and date sent to proposer	16/06/2011
Date of approval by HYMS JTLC	16/06/2011, revision approved on 25/07/2012

**5. HYMS Joint Senate**

Date sent to HYMS Joint Senate Committee	
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**6. Final approved version sent to the Programme Proposer**

Date sent to the Programme Proposer	15/08/2012
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