PROGRAMME SPECIFICATION		

1	**Awarding Institution**	Newcastle University
2	**Teaching Institution**	Newcastle University
3	**Final Award**	BA (Hons)
4	**Programme Title**	Ancient History and Archaeology
5	**UCAS/Programme Code**	VV14
6	**Programme Accreditation**	N/A
7	**QAA Subject Benchmark(s)**	Archaeology, Classics
8	**FHEQ Level**	6
9	**Date written/revised**	April 2010

10	**Programme Aims**

The programme aims to produce undergraduates who:

1. Have a sound knowledge and understanding of the subjects of Ancient History and Archaeology, and an in-depth knowledge and understanding of self-selected specialist areas within these subjects.

2. Have developed a range of subject-specific skills (including those needed to carry out archaeological investigations) as well as the intellectual and key skills to equip them for lifelong learning.

3. Are able to investigate historical problems in depth, can use source materials from the classical world critically, and are able to assimilate and appreciate historiographic arguments and traditions.

4. Show an awareness and understanding of archaeological remains and of their role in contemporary communities.

5. Have been provided with an opportunity to study Ancient History and Archaeology in an environment enhanced by research, and by the rich heritage resources of the British Isles (most particularly in the north-east of England).

6. Will be capable of going on to further study, or undertaking a wide variety of jobs in archaeology, history, industry, commerce and the public sector.

The School of Historical Studies aims to provide a programme:

7. In which teaching is informed by research, both relevant research in the disciplines of Archaeology and History, and research carried out by members of staff

8. Which meets standards set out in university policies. Where courses of study takes place outside the university during ERASMUS exchanges the standards will comply with the appropriate university policies on placements.

11	**Learning Outcomes**

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the benchmark statements for Archaeology and Classics.

Knowledge and Understanding

On completing the programme students should:

A1   Be aware of the diverse sources of evidence used by Ancient Historians and Archaeologists (including excavated, documentary, representational, artefactual, environmental and scientific data), knowledge of the nature of these forms of evidence, and a critical appreciation of the methodologies by which data can be acquired, analysed and interpreted from such sources

A2   Demonstrate knowledge and understanding of the basic concepts, theories and methods underpinning Ancient History and Archaeology, with an ability to think critically about practice and interpretation in both subject areas

A3   Have a broad and comparative knowledge of the history and archaeology of the Classical world, and of other selected geographical regions and chronological periods

A4   Show knowledge and understanding at an intensive level of the sources and historiography, and/or the archaeological record and history of archaeological enquiry, relating to the Classical world and other selected periods, acquired through studying with scholars at the forefront of their fields, in a cutting edge research environment.

A5   Demonstrate knowledge of the origins and development of the disciplines of ancient history and archaeology

A6   Have acquired knowledge and understanding of national and regional archaeological remains and resources.

Teaching and Learning Methods

The primary method of imparting knowledge and understanding (A1-A6) is lectures, supplemented by seminars and in the case of A1 and A6 by participation in excavations, or other forms of practical fieldwork. A2 and A5 are introduced though the core Stage 1 modules ARA1027, CAH1012 and CAH1013. A4 is developed through the Stage 2 core modules ARA2091, CAH2006 and CAH2007 and by undertaking an independent dissertation (ARA3023/CAH3024) at Stage 3. Seminars and workshops help to reinforce and amplify student learning gained in lectures. They also encourage independent study and throughout the programme students are encouraged to supplement taught material by independent study, for which they are given extensive support and guidance on source materials, including web-based material, and how to use these sources of information.

Assessment Strategy

Knowledge and understanding of the subject is primarily assessed by unseen written examinations together with written assignments, notably essays, projects, reports and the independent dissertation or portfolio (A1-A6). Examinations primarily assess core information, and provide students with an opportunity to demonstrate their ability to structure a clear, concise and well reasoned argument in a limited time period. Submitted coursework places more emphasis on critical analysis and understanding. They enable students to demonstrate their employment of appropriate research techniques.

Intellectual Skills

On completing the programme students should be able to:

B1   Locate, extract, evaluate and analyse different sorts of data

B2   Use analytical reasoning and critical skills in reading, writing and debating

B3   Use appropriate evidence to support a sustained argument or line of reasoning

B4   Adapt effectively to new and/or unexpected questions or problems

B5   Demonstrate intellectual independence

Teaching and Learning Methods

Intellectual skills (B1-B5) are developed through exercises and guidance in lectures, in seminars, supplemented in the case of B1-B3 by written feedback and by discussion with staff. Students are encouraged to acquire such skills during the completion of a range of written assignments, notably essays and reports. Intellectual skills (B1-B5) are also encouraged by group and one-to-one discussion and debate in lectures and seminars, and (in the case of B2) through oral presentations. B1 and B4 are also developed in the course of fieldwork placements.

Assessment Strategy

Intellectual skills B1-B3 and B5 are assessed by written assignments, including unseen written examinations, and are also be assessed in the dissertation. B4 is primarily assessed by unseen written examination.

Practical Skills

On completing the programme students should be able to:

C1 Produce clear, succinct, accurate, well-planned and coherent presentations in both written and oral forms
C2 Appreciate different interpretations of past events and processes, and be able to argue for and contest particular theories and points of interpretation
C3 Use practical and fieldwork skills in the observation and study of the physical remains of past societies, and the investigation, recording, collection, excavation and presentation of archaeological materials
C4 Appreciate the political and social significance of archaeological remains, and take a responsible attitude to their study, interpretation, preservation and presentation
C5 Apply the research skills required to process and evaluate historical and archaeological data, and produce thereby a dissertation or portfolio

Teaching and Learning Methods

Written and oral presentation techniques (C1) are developed via feedback on written and oral work throughout Stages 1-3. Oral presentation techniques are further developed (for example through question and answer sessions at the close of presentations) in core modules at Stage 2 and optional modules at stages 1-3. Aspects of many subject-specific skills (C2, C3, C5) are taught in lectures and in seminars, supplemented by assigned work. C1, C2 and C5 are further acquired through the research skills module ARA3028 (which prepares students for their dissertation research), through preparation of the dissertation itself, and in the course of dissertation supervisions. C3 is taught through participation in excavations, field trips, museum visits, and laboratory work and/or modules involving artefact handling and analysis. C4 is addressed initially through the first year module ARA1027 and supported in later stages through lectures, seminars and fieldwork (e.g. ARA2093 Fieldwork).

Assessment Strategy

The ability of students to deploy practical skills C1-C4 effectively is assessed primarily by means of unseen written examination, written assignments, and the dissertation. C5 is assessed via the dissertation. Artefact analysis and observational skills (C3) are assessed in a range of material-based modules (e.g. ARA2094 and ARA3033), and in part through submission of a fieldwork report under module ARA2093 Fieldwork, detailing the student's own experiences in the field. Supporting documentation on fieldwork is also completed by the director of the excavation (or similar) commenting on the student's performance in practical tasks.

Transferable/Key Skills

On completing the programme students should be able to:

D1 Listen and take notes effectively
D2 Work independently, both in completing directed reading and assignments and in pursuing, with guidance, a self-directed research trajectory - for example by writing a dissertation.
D3 Employ a variety of IT skills (including word-processing and spread sheet programmes, PowerPoint, email, Blackboard and the internet)
D4 Communicate information and ideas in writing, verbally and through oral and graphic

	presentations
D5	Adapt to varied working environments, problems and challenges
D6	Work with others in producing written and oral reports and presentations, work as part of a team in a fieldwork environment, and respect the viewpoints of others
D7	Manage their time effectively, and be able to meet deadlines

Teaching and Learning Methods

Listening and note-taking (D1) are developed principally in lectures but also in seminars, including attendance at the oral presentations of other students. Note-taking is also a feature of independent study (D2). D2 and D6 are fostered through the Stage I module ARA1027 Introduction to Archaeology, and through guidance provided in our comprehensive Degree Programme Handbook. At Stage 3, D2, D6 and D7 are further developed through dissertation preparation (ARA3028), and through preparation of the dissertation (ARA3023). IT skills (D3) are practiced by the word-processing of written assignments and in the preparation of PowerPoint presentations. Web-based bibliographic research is encouraged (for example via the University's Online Reading List facility), and many module leaders use the on-line *Blackboard* system for the provision of course materials. Communication skills (D4) are learnt and practiced in question-and-answer sessions in lectures, in the preparation of group assignments and presentations (both written and oral), and in the course of fieldwork. Adaptability (D5) and team working skills (D6) are especially developed in the course of fieldwork placements at Stages 2 and 3. Students undertaking fieldwork encounter entirely new working environments, people and problems, and develop interpersonal skills and a flexible, adaptive approach as a result.

Assessment Strategy

D4 (oral communication) and D6 are assessed by means of the grading of oral and written group presentations. D1, D2, D3, D4 (written communication) D5 and D7 are assessed by a combination of unseen examinations, written assignments, and the dissertation. IT skills (D3) are assessed as part of the process of grading written work.

12	Programme Curriculum, Structure and Features
Basic structure of the programme	

This degree programme allows students to combine Ancient History (the study of written sources from the Classical World) with Archaeology (the study of material culture) in exploring the human past. The programme focuses principally on the Classical world (BCE 800-CE 400), but opportunities are provided to explore the archaeology of both earlier and later periods, and also have the (optional) opportunity to learn Latin or Greek. Students take modules drawn mainly from the Archaeology, Ancient History and Classical Studies programmes within the School of Historical Studies, and undergo the same practical (fieldwork) training as Single Honours Archaeology students. The programme is studied over three years full-time.

The programme is divided into three stages. Each year, or stage, requires the study of modules with a total credit value of 120. The three years of the degree therefore amounts to 360 credits. Each credit represents 10 hours of student effort, covering lectures, seminars, workshops, private study, completion of coursework and revision.

At Stage Two students have the right to earn 20 credits in modules from other subject areas or schools in the Faculty of Humanities, Arts and Social Sciences, at the discretion of the DPD. At Stage Three students similarly have the right to earn 30 credits in modules from other subject areas or schools in the Faculty of Humanities, Arts and Social Sciences, at the discretion of the DPD.

For degree classification purposes all Honours (that is, Stage Two and Stage Three modules) modules count. Stage 3 credits have twice the weighting of Stage 2 credits in the final degree classification.

Progression to the next stage of the programme is conditional on meeting the conditions laid

down by the University for progression. Students are normally required to pass every module with a mark of at least 40% in order to proceed.

At Stage Three, all students must undertake a 30 credit dissertation.

All students are required to participate in approved excavations, fieldwork or other practical work of at least two weeks' duration at the end of Stage One and at least two weeks' duration at the end of Stage Two.

Programme content

At Stage One the compulsory modules (ARA1027 Introduction to Archaeology, ARA 1030 Archaeology of Britain from the Romans to the 20th century, CAH1012 West Meets East: Greek History and Society, CAH1013 Road to Empire, and CAC Classical Art from Greece to Rome) introduce students to the basic aims, theories and methods in both Ancient History and Archaeology (A1-2, A5), and to practical skills and concepts (A2, A5, A6, C1-4). They select a further 20 credits of optional modules from those available in Archaeology (ARA1028 Prehistoric Britain), Classical Studies (CAC/CAH coded modules), Classics (Greek and Latin language modules coded CAG and CLA) or the world history modules offered to all students in SHS (HIS1023 Encounters in World History). Visits are made to local archaeological sites and museums (A6, C3-4). During the summer vacation at the end of Stage One, students participate in approved excavations, fieldwork or other practical work of at least two weeks'.

Stage One modules begin the development of all related intellectual and practical skills (B1-C5). Transferable skills (D1-D7) are also introduced and practiced.

At Stage Two four compulsory modules (ARA2091 Archaeology of the Roman Empire, ARA2093 Fieldwork, CAH2006 Alexander's Footsteps: Greeks and Macedonians and CAH2007 Caesar's Gift: the Roman Emperors) expand knowledge and understanding of Greek and Roman history and introduce a European and international dimension for the study of Archaeology (A1-A3). Stage Two also provides opportunities for specialisation in both Ancient History and Archaeology, with students choosing options from a list that ranges from ARA2001 Archaeological Theory and Interpretation to CAH2010 Women in the Ancient World. (A1, A4, C3). The fieldwork undertaken at the close of Stage One is assessed at Stage Two through the means of a fieldwork diary (A6, B4, C3-C4). The lectures and seminars that accompany the fieldwork module equip students to undertake a second excavation or fieldwork placement at the end of Stage Two.

Stage Two modules are mainly on narrower topics than Stage One modules, and are studied at a more intensive and demanding level than those at Stage One. Modules at Stage Two continue the development of intellectual skills (B1-B5) and practical skills (C1-C5) and Transferable skills (D1-D7) are also developed at Stage Two.

In Stage Three, the study of Ancient History and Archaeology and is undertaken at a still more intensive level (A4). Students are free to choose 80 credits of available options in Ancient History and Archaeology (for example ARA3021 Frontier Communities of Roman Britain, ARA3016 Byzantine Archaeology, CAH3015 Persian Empire, CAH3030 Jews in the Graeco-Roman World), but must also undertake a dissertation. Those undertaking a dissertation take the compulsory module ARA 3028 (10) Research Skills in Semester 1, and in Semester 2 take either ARA 3023 (30) Archaeology Dissertation or CAH 3024 Ancient History Dissertation (30).

The dissertation like all Stage-Two and Stage-Three modules develop intellectual skills (B1-5) and practical skills (C1-C4), but also provides students with the opportunity to develop research skills (C5) and produce an extended study. Transferable skills (D1-D7) are further developed at Stage Three.

Programme regulations

http://www.ncl.ac.uk/regulations/regulations.html?id=770

13	Criteria for admission

Entry qualifications

The Admissions Tutor normally asks applicants for the degree for three A levels, with minimum grades of BBB-BCC.

Prospective entrants may also offer two AS levels of a similar standard in place of a third A level.

The Admissions Tutor welcomes Scottish qualifications and, although we consider all candidates with Scottish Highers/CSYS on an individual basis, a typical offer would be AABB at Higher Grade.

Admissions policy/selection tools

Places are normally offered primarily on a combination of predicted grades at A and AS level and the student's personal statement.

Students to whom offers are made are invited to an Open Day to meet staff and students. Attendance is not compulsory.

Applicants with non-standard qualifications may be interviewed

Non-standard Entry Requirements
The School of Historical Studies is keen to encourage applications from mature students with A levels or other qualifications and each of these applicants is given individual consideration. Whatever their background or qualifications, the School welcomes applications from bright and enthusiastic people with a genuine interest in the subject(s) being studied.

Overseas students: appropriate overseas qualifications will be considered, as well as A levels. Evidence of English language skills that are adequate to complete the programme successfully is required (IELTS English Language proficiency test score of 6.5)

Level of English Language capability
Evidence of English language skills that are adequate to complete the programme successfully is required (IELTS English Language proficiency test score of 6.5)

14	Support for Student Learning

Induction
During the first week of the first semester students attend an induction programme. New students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. The International Office offers an additional induction programme for overseas students (see
http://www.ncl.ac.uk/international/arrival/jan/index.phtml

During induction week, all students entering single and joint honours archaeology programmes take part in a practical skills day at Bede's World, where they are introduced to a variety of skills from the past (such as flint knapping and potting).

Resources specifically supporting learning in Archaeology and History
Students have access to the library located at the Great North Museum: an unrivalled collection of works on archaeology, natural history and history. Good local history libraries are also available at the Newcastle Central Library and the library of the Literary and Philosophical Society.

Students also have access to the extensive artefact collections of the Great North Museum (the premier museum for the north-east of England and the 'gateway' to the Hadrian's Wall World Heritage Site), and the Beamish Museum Resources Centre. Information on these and other local resources is listed on the School web-site (http://www.ncl.ac.uk/historical/) and on individual staff websites.

Supporting materials for many modules are made available online via the Blackboard system. Additional study support materials are also provided on the 'Programme Resources for Archaeology' Blackboard site.

Study skills support
Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.
Numeracy support is available through Maths Aid. Further details are available at: http://www.ncl.ac.uk/library/news_details.php?news_id=159 Help with academic writing is available from the Writing Development Centre http://www.ncl.ac.uk/students/wdc/

Academic support
The initial point of contact for a student is with a lecturer or module leader, or their tutor (see below) for more generic issues. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Staff-Student Committee, and/or at the Board of Studies.

Pastoral support
All students are assigned a personal tutor whose responsibility is to monitor the academic performance and overall well-being of their tutees. Details of the personal tutor system can be found at http://www.ncl.ac.uk/undergraduate/support/tutor.phtml
In addition the University offers a range of support services, including the Student Advice Centre, the Counselling and Wellbeing team, the Mature Student Support Officer, and a Childcare Support Officer, see http://www.ncl.ac.uk/undergraduate/support/welfare/index.phtml

Support for students with disabilities
The University's Disability Support Service provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies. For further details see http://www.ncl.ac.uk/disability-support/

Learning resources
The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities, see http://www.ncl.ac.uk/undergraduate/degrees/facilities/index.phtml

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-sessional language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange. See http://ncl.ac.uk/langcen/index.htm

15	Methods for evaluating and improving the quality and standards of teaching and learning

Module reviews
All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the School Teaching and Learning Committee and at the Board of Studies. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Teaching and Learning Committee.

Programme reviews
The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Teaching and Learning Committee.

External Examiner reports
External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Teaching and Learning Committee. External Examiner reports are shared with institutional student representatives, through the Staff-Student Committee.

Student evaluations
All modules, and the degree programme, are subject to review by student questionnaires. Informal student evaluation is also obtained at the Staff-Student Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking the students' views on the quality of the learning and teaching in their HEIs. Further information is at
www.thestudentsurvey.com/ With reference to the outcomes of the NSS and institutional student satisfaction surveys actions are taken at all appropriate levels by the institution.

Mechanisms for gaining student feedback
Feedback is channelled via the Staff-Student Committee and the Board of Studies.

Faculty and University Review Mechanisms
The programme is subject to the University's Internal Subject Review process, see
http://www.ncl.ac.uk/aqss/qsh/internal_subject_review/index.php

16	Regulation of assessment

Pass mark
The pass mark is 40 (Undergraduate programmes)

Course requirements
Progression is subject to the University's Undergraduate Progress Regulations (http://www.ncl.ac.uk/calendar/university.regs/ugcont.pdf) and Undergraduate Examination Conventions
(http://www.ncl.ac.uk/calendar/university.regs/ugexamconv.pdf). In summary, students must pass, or be deemed to have passed, 120 credits at each Stage. Limited compensation up to 40 credits and down to a mark of 35 is possible at each Stage and there are resit opportunities, with certain restrictions.

Weighting of stages
The marks from Stages 2 and 3 will contribute to the final classification of the degree. Stage 3 credits have twice the weighting of Stage 2 credits in the final degree classification.

Common Marking Scheme
The University employs a common marking scheme, which is specified in the Undergraduate Examination Conventions, namely

	Modules used for degree classification (DC)	**Modules not used for degree classification**
<40	Fail	Failing
40-49	Third Class	Basic
50-59	Second Class, Second Division	Good
60-69	Second Class, First Division	Very Good
70+	First Class	Excellent

Role of the External Examiner
An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning Committee, after recommendation from the Board of Studies. The External Examiner is expected to:

    See and approve examination papers
    Moderate examination and coursework marking
    Attend the Board of Examiners
    Report to the University on the standards of the programme

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In addition, information relating to the programme is provided in:

The University Prospectus (see http://www.ncl.ac.uk/undergraduate/)

The School Brochure (contact enquiries@ncl.ac.uk)

The University Regulations (see http://www.ncl.ac.uk/calendar/university.regs/)

The Degree Programme Handbook

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Mapping of Intended Learning Outcomes onto Curriculum/Modules

Module	Type	Intended Learning Outcomes			
		A	**B**	**C**	**D**
ARA1026	O	1, 2,4	1, 2, 3, 4, 5	1, 2	1, 2, 3, 4, 5, 6, 7
ARA1027	C	1, 2, 5	1 ,2, 4, 5	1, 2, 3, 4	1, 2, 3, 4, 6, 7
ARA1028	O	1, 2, 5	1, 2, 4, 5	1, 2, 3, 4	1, 2, 3, 4, 6, 7
ARA1030	O	1, 2, 3, 6	1, 2, 3, 4, 5	1, 2,	1, 2, 3, 4, 5, 6, 7
HIS1023	O	1, 3	1, 2, 3, 4, 5	1, 2	1, 2, 3, 4, 5, 7
HIS1024	O	1, 3	1, 2, 3, 4, 5	1, 2	1, 2, 3, 4, 5, 6, 7
CAH1012	C	1, 2, 3, 5	1, 3, 5	1, 2, 3, 4	1, 2, 3, 4, 5, 7
CAH1013	C	1, 2, 3, 5	1, 3, 5	1, 2, 3, 4	1, 2, 3, 4, 5, 7
ARA2091	C	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
ARA2093	C	1, 2, 6	1, 2, 3, 4, 5	1, 2, 3, 4	3, 4, 5, 6, 7
ARA2097	O	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 3, 4	1, 2, 3, 4, 6, 7
ARA2098	O	1, 2, 3	1, 2, 3, 4, 5	1, 2, 3, 4	1, 2, 3, 4, 6, 7
ARA2001	O	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
ARA2011	O	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
ARA2090	O	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
ARA2094	O	1, 2, 3, 6	1, 2, 3, 4, 5	1, 3	1, 2, 3, 4, 6, 7
ARA2095	O	1, 2, 3, 6	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
ARA2097	O	1, 2, 3, 6	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
ARA2098	O	1, 2, 3, 6	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
CAH2006	C	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6,7
CAH2007	C	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6,7
CAH2009	C (for Portfolio route)	4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
ARA3023	C (for Diss route)	1	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAC2045	O	1, 2, 3, 6	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6, 7
CAC2050	O	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6,7
CAC2051	O	1, 2, 3, 5	1, 2, 3, 4, 5	1, 2, 4	1, 2, 3, 4, 6,7
ARA3028	C (for Diss route)	1	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
ARA3016	O	1, 2, 4, 5, 6	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
ARA3021	O	1, 2, 4, 5, 6	1, 2, 3, 4, 5	1, 2, 3, 5	1, 2, 3, 4, 5, 6, 7
ARA3024	O	1, 2, 4, 5, 6	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
ARA3025	O	1, 2, 3, 5, 6	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
ARA3027	O	1, 2, 3, 5, 6	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH3020	C (for Portfolio route)	4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH3021	C (for Portfolio route)	4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH3009	O	1, 2, 4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAC3030	O	1, 2, 4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH3038	O	1, 2, 4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAC3053	O	1, 2, 4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH3014	O	1, 2, 4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH3015	O	1, 2, 4, 5	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
HIS2034	O	1, 2, 3,,4, 6	1, 2, 3, 4, 5	1, 2, 5	1, 2, 3, 4, 5, 6, 7
CAH2010					
CAH3023					