Staff survey on academic reading

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Executive summary

In February 2011 the Library launched an upgrade to the University Online Reading List System. This upgrade followed a major redevelopment of the software. While promoting the new version of the system, the Library took the opportunity to investigate the views of academic staff on the purpose of academic reading and reading lists in general in learning. A successful application for a small grant (£500) from ELESIG allowed for the recruitment of a research associate to design a questionnaire (appendix 1).

The survey ran for two weeks during May 2011 and elicited 81 responses from a possible total of 770 research and teaching staff. The survey questions are included in Appendix 1.

The key findings from the respondents were:

1. The purpose of reading lists is to extend the students' knowledge of lecture topics and to guide their reading around the topic.
2. The reading lists are a means to encourage independent reading and research and some award higher marks if there is evidence of this.
3. They perceive that students do not use reading lists, relying instead on lecture notes and hand outs.
4. They do not know how students use reading lists when they do, although suspect that students rely exclusively on the texts on the list.

A number of recommendations for the Library are suggested:

1. Further elicit from academics the reasons why they want students to read and promote these to students. [Academic Services Team and Library Liaison Officers]
2. Encourage academics to reflect on how they use reading lists and whether this should be made more explicit to their students, both in class and on their reading lists. [Academic Services Team with the Teaching Centre]
3. Promote the availability of loan statistics for items on the Online reading lists, so academics have a clear understanding of which texts are being used by their students. [Academic Services Team and Library Liaison Officers].
4. Encourage academics to make more use of the annotations feature in the online reading list system to help students identify which are the key texts to support their studies. [Academic Services Team and Library Liaison Officers].
5. Provide more support to students on reading techniques. [Academic Services Team and all academic staff]
6. Promote the outcomes of this survey and the corresponding student survey to academic departments. [Library Marketing & Publications Group]

Contents

1. Methodology

The small project team was aware that it did not have the resources to undertake a labour intensive study. It was therefore decided to choose a data collection approach that would be straightforward to create and implement, require a short amount of time for responders to complete, and not need extensive input to evaluate. A brief survey using likert style and open questions was developed. The survey was promoted to staff on campus and ran for two weeks during May 2011.

2. Results and discussion

The online survey elicited 81 responses from a possible total of approximately 770 research and teaching staff. This represents a very small response rate and therefore is a snap shot of opinions.

The majority of respondents were attached to the Social Sciences and Humanities faculty. This is not surprising as members of these departments are the heaviest users of the Online Reading List system, though the high figures for Civil Engineering and Mathematics were not anticipated. The breakdown of responses by department is as follows:

Engineering Faculty		Science Faculty		Social Sciences & Humanities Faculty	
Aeronautical & Automotive Engineering	0	Chemistry	1	Art & Design	1
Chemical Engineering	0	Computer Science	2	Business School	8
Civil Engineering	15	Information Science	1	Design & Technology	7
Electrical & Electronic Engineering	1	Mathematics	8	English & Drama	6
Materials	2	Physics	0	Geography	6
Mechanical & Manufacturing Engineering	4			Politics, History & International Relations	2
WEDC	1			Social Sciences	7
				Sport, Exercise & Health Sciences	9
Total	23		12		46

One quarter of respondents (25.9%) fell in the new lecturer category i.e. teaching for between 0-5 years. However, a larger proportion (38.3%) of staff had been teaching for 15 -20 years.

Over three quarters (79%) of respondents "always" provide recommended reading to their students. This is encouraging, though the wording of the question might have elicited a desired response through a sense of obligation.

Reading weeks are not a common feature of modules; nearly half (44.4%) of respondents never uses one and a third (32.1%) uses them "sometimes".

In the experience of one respondent "students treated [the reading week] as a half term holiday". Another academic reported "(trying) it once but failed". Regrettably the reasons for the failure were not given.

2.1 Academics views on the purpose of reading lists

Generally, the respondents were in broad agreement with the following statements on the purpose of reading lists:

- 95% agrees or strongly agrees that the purpose of reading lists is to extend students' knowledge of lecture topics.
- 94% agrees or strongly agrees that reading lists are to help guide students reading.
- 80% agrees or strongly agrees that reading lists are to help stimulate students to read. The expectation that students are required to read as part of their degree may account for the 20% that disagreed with the statement.

There was less consensus regarding whether reading lists helped improve student engagement with just 59% of respondents agreeing or strongly agreeing with this statement.

The free text comments suggest that academics view reading lists as a means to encourage independent reading and research.

"I don't give a reading list on my Y3 module as by this point the students are able to do the research themselves".

"One of my modules is orientated towards energy/environmental policy and for this I strongly encourage the use of internet searches for relevant material using keywords"

"[Reading lists] often block the students' own initiative".

It is not clear from most of the comments how academics communicate their expectations to students. One or two lecturers award higher marks for coursework that draws on materials extraneous to the reading list, but it is unclear whether this marking criteria was made explicit to the students.

Whilst academics desire that students develop independence, they also recognise that the use of reading lists by students may differ in practice:

"*I get the feeling students think a reading list is a list of what they should read, but I prefer to think of it as a guide to further reading and I expect students to also seek their own*"

"My impression is that students essentially ignore them, even though I point out relevant chapters in the lecture. Nowadays students are too much focused on handouts and lecture notes".

"The reading list itself is not enough to stimulate reading, unless the student is already motivated. To motivate reading I use other approaches usually tied to marking".

Finally one or two comments refer to the 'bigger picture': "*they're also used, of course, for requesting texts to be obtained by the Library*", this recognises the important role the lists have in the library's workflow. Another comment reflects a longer term view of their purpose *"as a source of reference in their career after completing their studies".*

This question (question 5) provoked academics' feelings about reading lists and how students use them (or not). The survey failed to pose a very important and fundamental question; namely, why do academics want students to read? A follow-up question to this could have teased out how academics motivate students to read, although one or two respondents made explicit comments on motivation techniques. Indeed a later question (question 12) asks about the ways lecturers encourage students to use their reading lists.

1.2 The Library's role in relation to reading lists.

Academics were asked if they prepared their own reading lists or if they used admin staff, research assistants or the Library. The comments highlight that respondents interpreted the preparation element of the question with the mechanics of using the University's Online Reading List System, rather than the intellectual selection of resources. The responses of "sometimes" (42%), "frequently" (5%) and "always" (2%) in relation to asking the library for help would seem to bear this out.

A follow-up question asked how the Library could help in devising reading lists. The respondents identified clerical activities such as acquisition of materials (50 out of 81) and demonstrating the mechanics of using the online reading list system (19 out of 81). A small number of respondents also felt that the Library role also included giving advice on the role of reading lists in learning and teaching (21 out of 81).

There were 19 free text comments. Not surprisingly the clerical activities are again highlighted.

"*give feedback about cost and availability of items*"

"*help academics decide appropriate mix between short/long loan/24 hour*"

"*setting up a journal ToCs service*"

A few comments highlighted the respondents were also open to other forms of library support:

"*anything that incites students to read and study with books*"

"*pilot searches for new modules and those being revised*"

"*yes never really thought of the Library helping - perhaps you could be more proactive in offering assistance to academics*"

Some academics do not envisage a role for the Library e.g.

"*Why would the library need to help in this? Doesn't an individual subject lecturer just need to devise the appropriate list? Or do you mean the mechanics of constructing the list?*"

"*I don't think this should be the role of the library*"

"*No suggestions*"

"* Don't know*"

There is one comment that deserves separate attention:

"*it would be helpful to hear about any mismatch between lecturers' and students' expectations about reading lists. A digest of library loan statistics for my modules would be informative as well so I can see which of the books are actually borrowed*".

The 'mismatch' is especially interesting, as it is partly what prompted the current study. The Library will currently check loan statistics of specific items on request, although this service is not actively promoted. There is work that the Library can do with the Teaching Centre (and indeed more widely) in respect of both points.

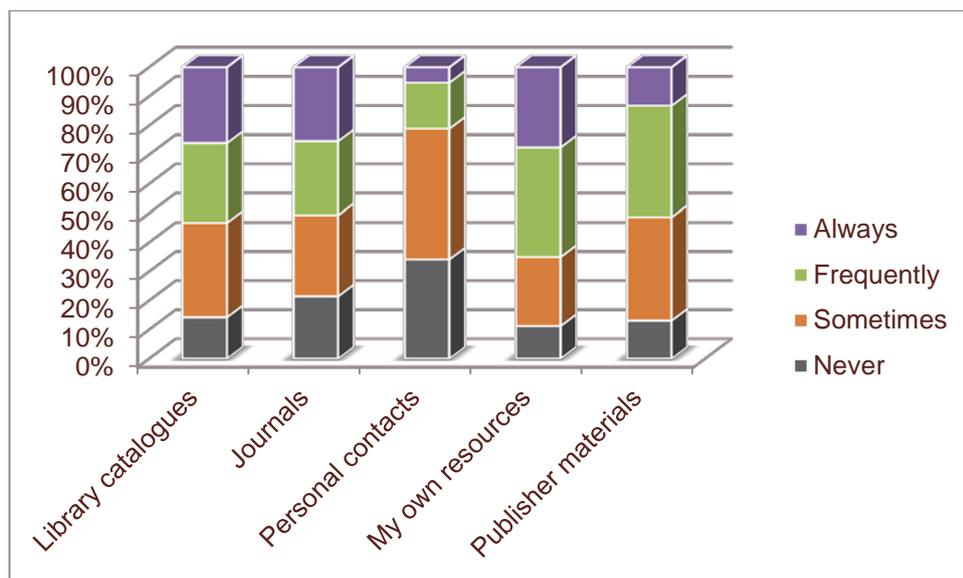## 2.3 Resources used by lecturers to compile reading lists

Table 1: Resources used by lecturers to compile reading lists

Table 1 illustrates that lecturers use a range of resources to compile their reading lists. In particular they use their own resources or publisher materials always or frequently. This is not surprising as these are immediately on their radar. However some of the other responses provoke questions. For example just over 53% frequently or always use library catalogues to compile reading lists. This is a relatively low figure which may suggest that library catalogues are not intuitive to use. Around half of respondents frequently or always use journal articles. Just under half (44%) sometimes uses personal contacts; does this indicate the high value of personal recommendations?

In terms of frequency of updating reading lists, 50.6% of lecturers responded "as necessary" with "annually" a close second (37.0%). Responses for "termly" and "other" were in equal measure - 6.2% apiece. It is interesting to look at the free text comments which suggest that there is some ambiguity with the "as necessary" option in so far as it may be less frequent than "annually" e.g. "*rarely - 'as necessary' is close to right but seems dishonest*". Though "*mixture between annual update and regular additions*" is clearly more frequent than "annually". It is likely that the popularity of the "as necessary" option is related to its ambiguity. Future incarnations of the survey should seek to eliminate this ambiguity. One respondent remarked "*as soon as I come across a book I deem useful I add it*". The Library would like to encourage this.

2.4 Organisation of reading list contents

Responses show that academics vary in how they organise reading list contents. The format of this question allowed for multiple responses and attracted 143 responses from 81 individuals. Whilst there may be therefore some uncertainty about the conclusions drawn, a few themes stand out. For example, some of the respondents organise their lists in specific ways:

- by section e.g. key texts and additional reading (41 responses)
- by topic (39 responses)
- by week (27 responses).

A survey of student reading habits was conducted a few months prior to this survey. One of the questions on the student survey asked how helpful (or not) the reading lists are perceived

to be. Students were critical of a lack of consistency between modules; a typical comment was that some reading lists "*provide very little and others vast numbers of references*". Very few lecturers (12 responses) divide the module readings into separate shorter lists focussed by topic. It is interesting to note that the student responses reflect an irritation with the length of reading lists.

Finally, a small number of academic respondents, 24, provide annotations on the readings. Lack of guidance was cited by students as a problem. Clearly lecturers need to strike a balance between giving suitable levels of guidance such as explicit directions on what to read versus allowing students to use their own initiative when selecting reading material. An appropriate compromise would be variable guidance depending on the year of study. Appendix 2 lists examples of particularly helpful annotations.

Finally the question would have benefited from an option such as "none of the above" / "other" to allow for alternative scenarios.

2.5 Encouraging use of reading lists

Predominantly academics make reference to reading lists within lecturers. Some set "reading tasks" or other "assessment exercises". The format of this question allowed for multiple responses and 140 responses were recorded from 81 individuals. There were 25 free text comments, some of which seemed surprisingly passive e.g.

"it is available for students use"

"PhD students do reading regularly"

"putting a note on Learn under module specifications"

"by telling students in seminars, not just lectures, that there are useful leads on the reading list"

Others hint at closer direction e.g.

"indicating useful / helpful readings for revision purposes"

"linking from Learn Assessment exercises, essays etc"

"sections of reading lists are provided for specific assessment topics e.g. for group seminar project"

Very few comments were explicit about the direction or encouragement provided, though a couple stand out:

"tie in lecture slides to specific chapters and groups of pages - all annotated on lecture handouts" This respondent did not indicate if the corresponding reading list was also annotated in this way.

"having workshops where students have to work through the reading with the demonstrator available to ask questions (I teach statistics which requires a lot of practical reinforcement of learning). The reading is normally a chapter with an exercise at the end that students complete and they can ask questions if they get stuck whilst working on the exercise. This is at first and second year level undergraduate"

2.6 Preferred method of disseminating reading to students

34.6% via online reading list system
22.2%   mentioning during lectures
18.5% via the VLE
13.6% via printed reading lists

Since the online reading list system is the only option that integrates with library workflows, there is a disappointingly high use (35.8%) of alternative delivery methods, such as on paper or verbally during lectures. This has implications for student satisfaction levels, the

implications of which have also been reported in the literature (Parker at Sheffield and Bartlett at NTU). In addition, since the Online Reading List system directly displays the location and availability of each item on the list, the alternative delivery methods listed above effectively create more work for students. Those respondents who state they use the VLE to disseminate their reading lists, may have been doing so, or they may have been using the Online reading list system without realising it, as many academics assume the online reading list system to be a part of the VLE.

It is interesting to note that one respondent varies the dissemination method according to the level of the students: "*various – it depends on which level the students are I use the reading list to make sure the library has the resources I want the students to have access to and then specify week by week readings*".

2.7 How do academics think students use reading lists?

All 81 respondents submitted a comment.

The responses were categorised where possible as follows. Note: some responses were assigned to more than one category. Six responses were not categorised at all, either because it was not clear what was meant e.g. *follow them* or because it was a unique and specific response e.g. *to purchase books for themselves*.

category	# responses
students don't use reading lists	14
use for coursework	13
varies from student to student	12
use for exams / revision	11
take a 'minimalist' approach	10
lecturer does not know how students use reading lists	9
lecturer has supplied a personal view of how the list should be used	9
use to understand lecture material	7
use for extension work	5
uncategorised	6

Categorising free text responses is a very subjective activity and is prone to inaccuracies. However the responses seem to indicate that academics recognise that students do not routinely read and where they do it is to satisfy a need to complete coursework or to pass an exam. For example:

"It is a challenge to get students to read. In my experience it is getting worse - we have clever students at LU, but they still try and get away with the minimum reading!"

"Many don't bother if they can get away with it. If they think they can pass an assignment, exam or coursework with notes/powerpoints etc they will not bother with a textbook."

"Not much. There is no reading culture. Many students I ask at the end of the 1yr course have never looked at any book."

It is not an entirely gloomy picture as 12 responses recognise that students vary in their willingness to use the reading lists. Here is a selection of their comments:

"A difficult question to ask, because first / second year students find it much more difficult to find time to do background reading. Finalists have a more mature attitude".

"Finalists use them to get the books and keep up with the module. First years don't seem to know about the lists…"

"…There are students who find books and discuss them with me, but I believe they use my suggestion as a starting point, but find books they prefer themselves".

"I think it varies by student. I think some students ignore them totally! Others use them as a means of supplementing the material delivered in lectures (which is what I intend them for) and others use them as a replacement for coming to lectures so view the reading lists as the number one source of learning material I would say (this is a minority)".

In some instances the lecturer has supplied a personal view of how the list should be used:

"I don't think they do - undergraduates these days need specific guidance on what to do at each stage; I have found that they are overwhelmed by a reading list and don't have the skills to deal with one e.g. by selecting for themselves what to dip into".

"It depends on the module. I want my students to use the list as a jumping off point. I do not want them to think that the materials on the list are the only ones, and that is why I do not divide the lists by week/topic etc. Some of my colleagues, who are splendid teachers, disagree with me, and use them differently to me. Such differences are consistent with what education is and should be".

The responses suggest that the Library needs to play a bigger role in helping students improve their information literacy skills in terms of using the lists and finding additional sources of information.

2.8 Interactive elements e.g. student-posted book reviews

58% considered interactive elements fairly useful or very useful. This is contrary to the expected rejection of this option on grounds of frivolous use by students. The response suggests that some academics may consider that 'student peer reviews' would engage students. However there were also concerns that students lack the ability to critically evaluate sources and the wider ramifications of student reviews e.g.

"*I don't think they would do it, and they are not the best judge of a good reading. Something that is challenging would be unpopular*".

2.9 Higher student fees

Academics were asked about higher student fees and if this would change their behaviour when compiling reading lists e.g. limiting to key texts only or sourcing free alternatives or if they expected the library to provide all the key texts. This was a multiple response question and the results for the individual responses exceed the population.

with higher student fees in mind I would:	
try to limit my reading lists to key texts only	15
try to find free alternative sources of suitable texts	18
expect the library to provide all the key texts	39
other	40

The 40 free responses were categorised where possible as follows.

category	# responses
no impact or change of practice	22
seek to use more e-resources	10
other suggestions	2
uncategorised	6

Some responses in the 'no impact' category make clear that academics ensure that key texts are already stocked by the library e.g. "*no effect since my reading lists are already limited to key texts (which is fully sufficient for my modules) and these texts are held by the library*". Some responses recognise students' out of pocket expenses e.g. "nothing - I always try to use books that are reasonably priced and avoid expensive ones when possible". A good proportion of the responses in this category see no correlation between higher fees and their reading list strategies e.g. "*no change at all. I don't see why higher fees should change the strategy*". This is surprising as students frequently cite the lack of availability of key texts as an issue.

In the "more e-resources" category some comments equate higher fees with higher expectations which by inference can only be satisfied by electronic access. For example:

"Expect far greater access online to a far wider selection of texts/journals through e.g. broadening use of licences and using online libraries (Questia etc) - personal Kindles for all staff/students?"

"Higher student fees is going to equal one thing - higher expectations. If they are paying 9k a year, they are not going to be at all happy that they cannot access readings when they want them. Easily accessible resources - e-books and online journals are going to be absolutely critical in the near future".

Whereas some of the other comments in the more e-resources category have a preference for the online format for other reasons e.g.

"As already indicated this is something I have already done because otherwise students just don't read anything".

"I'll probably try to use more on-line materials, though that's not motivated solely by higher fees".

"In new modules I try only to use things available electronically so there are no access issues".

3. Conclusions

The responses from this survey indicate that academics use reading lists to extend students' knowledge of lecture topics and guide their reading around the topic. Few respondents provided annotations on their lists and this is mirrored in the wider academic community. Since few reading lists are annotated, it is not clear how academics communicate the purpose of the reading list to students.

The respondents believe that students rely on lecture materials rather than use reading lists or else read only the items on the reading list. This suggests there may be a mismatch between how academics want students to use reading lists and how students actually use them. There is scope therefore for the Library to provide support to both students and academics to derive greater benefits from reading lists.

4. Recommendations

5. Further elicit from academics the reasons why they want students to read and promote these to students. [Academic Services Team and Library Liaison Officers]
6. Encourage academics to reflect on how they use reading lists and whether this should be made more explicit to their students, both in class and on their reading lists. [Academic Services Team with the Teaching Centre]
7. Promote the availability of loan statistics for items on the Online reading lists, so academics have a clear understanding of which texts are being used by their students. [Academic Services Team and Library Liaison Officers].
8. Encourage academics to make more use of the annotations feature in the online reading list system to help students identify which are the key texts to support their studies. [Academic Services Team and Library Liaison Officers].
9. Provide more support to students on reading techniques. [Academic Services Team and all academic staff]
10. Promote the outcomes of this survey and the corresponding student survey to academic departments. [Library Marketing & Publications Group]

5. References

Bartlett, S. (2010) Resource list management: a system-based approach. *Library and Information Update*. June 2010. 42-43

Parker, L (2004) Rethinking reading lists: making effective use of online resources lists and electronic offprints to support students. *Assignation* 21 (2) 40-43

Appendix 1: Reading List Survey questions

About You

1. What is the name of your department? [Select an answer from the list]

    If you selected Other, please specify:

2. I have been teaching for:
    a. 0-5 years
    b. 6-10 years
    c. 11-15 years
    d. 15-20+ years

    (Optional)

3. Do you provide lists of recommended reading for your module(s)? ['reading lists' hereafter]
    a. Sometimes
    b. Frequently
    c. Always
    d. Never (please go to Question 17)
    e. Other (please specify)

4. Do you have a reading week(s) in your module(s)?
    a. Sometimes
    b. Frequently
    c. Always
    d. Never
    e. Other (please specify)

5. Please rank the following statements about the purpose of reading lists. (Add other statements or comments in Question 6).

	Strongly Disagree	Disagree	Agree	Strongly Agree
They are to extend students' knowledge of lecture topics				
They are to help guide students' reading				
They are to help stimulate students to read				
They are to help improve student engagement				

6. Please add any other statements or comments from Question 5 (Optional).

Resources you use to manage and compile your reading lists

7. In preparing reading lists do you:

	Never	Sometimes	Frequently	Always
Do this work yourself				
Ask admin staff to help				
Ask research students to help				
Ask the Library to help				

8. How do you think the Library could help in devising reading lists? (Select all that apply)
   - Give advice on the role or reading lists in learning and teaching
   - Demonstrate the mechanics of online reading lists
   - Acquire the items which appear on reading lists
   - All of the above
   - Other (please specify):
9. I use the following to select items to include in my reading lists:

	Never	Sometimes	Frequently	Always
Library catalogues				
Journals				
Personal contacts				
My own resources				
Publisher materials				

10. How often do you update your reading lists?
    - As necessary
    - Termly
    - Annually
    - Other (please specify):

Dissemination / Instruction

11. On the reading list itself do you: (select all that apply)
    - organise the readings by week
    - organise the readings by section e.g. key texts and additional reading
    - organise the readings by topic
    - divide the module readings into separate shorter lists focussed by topic
    - provide annotations on the readings
12. In what ways do you encourage the use of your reading lists? (Select all that apply)
    - By making reference to them in lectures
    - By setting reading tasks
    - Through assessment exercises
    - Please add, in 'other' below, examples of the kinds of reading tasks/assessment exercises
    - Other (please specify):
13. What is your preferred method of disseminating reading lists to your students:
    - Printed reading lists
    - Online reading list system
    - Mentioning items during lectures
    - The VLE
    - Social networking sites
    - Other (please specify):

Perception of reading list

14. How do you think students use reading lists?

Interactive options

We are interested in what strategies there might be to involve students in the choice and way reading lists are compiled.

15. Would you find it useful if there was an online facility for students to comment on items on reading lists? i.e. Amazon-style reviews.

- Not very useful
- Fairly useful
- Very useful
- Other (please specify):

Higher student fees

We are interested in what effect the payment of higher fees by students might have on your reading list strategies.

16. With higher student fees in mind I would: (select all that apply)

- try to limit my reading lists to key texts only
- try to find free alternative sources of suitable texts
- expect the Library to provide all the key texts
- Other (please specify):

Finally

Thank you for completing this questionnaire. If you have any other comments, especially if you indicated that you do not provide recommended reading (Question 3), please add them here.

If you would be interested in taking part in a short focus group session to explore some of the ideas in this questionnaire, please leave your email address. (Optional).

Appendix 2: Selected annotations on Reading Lists

As part of a related, but separate exercise to this survey, a sampling of reading lists was reviewed for the type of annotations provided by the lecturer.

Where annotations, exist they predominantly refer to availability of alternative editions or formats. The following examples however illustrate specific guidance to students or provide the lecturer's opinion of the recommended resource.

Note: A classic in the field, with a range of diverse and insightful articles from eminent careers theorists. This book really defined the field and became a kind of foundation from which current thinking has developed. (BSC080)

Note: These people coined the term "boundaryless career" - you really must have a look at this book if you're interested in the debate on emerging career forms. In our view it's rather glowingly optimistic, but see what you think. Chapters 1, 14 and 22 give the best sense of what it's all supposed to be about. [Note abridged for this report] (BSC080)

Note: Contains all you need to know on the subject (CMC010)

Note: The easiest read of all the books (CMC010)

Note: Useful if you are working on any of the women writers on the course, or Henry James (EAC103)

Note: Very good discussion of Egerton's radicalism and impact in chapter 1 (EAC103)

Note: L1 - Macroeconomics: definition, scope and methods. Ch. 15, pp. 331-335 (ECB036)

Note: The following are two other useful texts which focus on the UK economy and should be consulted as necessary, but are **not** comprehensive macroeconomics texts and should not be used as such. (ECB036)

I recommended Wildi, particularly to those of you who did not study Electrical Engineering as a first degree, and if you don't already have any similar book that you know and like. Wildi is a general electrical engineering text…it is American and therefore uses 60 Hz and horsepower in many examples… [Note abridged for this report] (ELP032)

The following books will be generally useful throughout the course. They are all of equal merit. [Note abridged for this report] (EUA604)

Note: Provides the KEY overview of this block of lectures (GYB210)

Note: This book considers the same issues in more detail (and by-and-large from a more economistic view) and is more difficult. The relevant chapters are 5-8 on economic development theories and chapter 12 on political and social. (GYB210)

Note: Very basic, but good introduction. Ignore stuff on costs and funding (ISB010)

Note: This is an excellent guide for understanding how to develop codes and higher level categories from qualitative data. This is recommended for really keen students only! (ISB010)

Note: This book provides a basic course in non-linear differential and difference equations - the basis of chaos - including numerous tutorial problems, exercises and worked examples (MAA155)

Note: This covers the basics required in the course and is relatively cheap. (MMB801)

Note: Covers more than required. Extensive web site. Introduction to Heat Transfer (ISBN0471457272) also available (MMB801)

An easy reading approach, suitable for interest and background material. (PHA170)

A more mathematical book, suitable for working through problems (PHA170)

Note: p. 69-78 Critical Practice (Lecture) (SAA124)

Note: Especially good, very easy to read (SSA001)

Note: How can we interpret differences of income and wealth? … Key issues to be considered will be: is 'class' still as useful way of describing inequalities? In what ways has class changed in recent years? [Note abridged for this report] (SSA001)

Note: Excellent background reading with more detail than core text (TTB201)

Note: Appendix A has good gas dynamics summary (TTB201)