S390 Science Project Module

Are you ready for your Science Level 3 Project Module?

SXB390, SXC390, SXE390

SXG390, SXH390, SXP390

Contents

1 Introduction

S390 refers to the six different discipline-specific versions of the Science Level 3 Project Module. The version of S390 you will be undertaking will be determined by your scientific discipline interest: SXE390 for Environmental Science; SXG390 for Geosciences; SXB390 for Biology; SXC390 for Chemistry; SXH390 for Health Sciences; SXP390 for Physical Science.

Overall the aims and learning outcomes are the same for all versions - and guidance regarding relevant preparation and further developing your skills is also relevant to them all.

The Science Level 3 Project Module aims to enable you to develop and apply the subject knowledge and skills gained during your previous undergraduate studies. You will address a specific scientific question in your discipline area and demonstrate your understanding by writing a report of your findings appropriate for a specialist audience. Undertaking S390 is therefore rather different from studying other Science Level 3 modules. You will not have the familiar module materials, or a detailed study calendar, to pace your study.

Instead, you will have Module, Study and Assessment guides, skills resources, tutorials and your tutor to assist you in the design and execution of your own individual project within your own time plan. More information about the areas for investigation within each discipline version of S390 can be found in the relevant module descriptions of SXB390 *Biology*; SXC390 *Chemistry*; SXE390 *Environmental Science*; SXG390 *Geosciences*; SXH390 *Health Sciences* or SXP390 *Radiation and Matter*.

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2 Module Learning Outcomes

S390 provides opportunities for students to develop and demonstrate the following learning outcomes:

Knowledge and understanding (Kn)

Students of the Science Level 3 Project Module should demonstrate:

1 Demonstrate in-depth knowledge and understanding of your research area.

Cognitive skills (C)

Students should be able to:

1 Identify and research a question relevant to your science discipline(s).

2 Analyse and critically evaluate your findings to address your research question within the context of published work.

Key skills (Ky)

Students should be able to:

1 Develop an appropriate methodology to facilitate collection of your data or literature.

2 Effectively communicate the results of your research.

Practical and/or professional skills (P)

Students should demonstrate:

1 Demonstrate an adaptable and flexible approach to study using feedback and reflection.

2 Develop and apply skills necessary for effective self-managed study.

3 Suggested prior study

The module team considers it essential that you should already be experienced in studying at Level 3 and have a sound knowledge in your discipline area - hence **we recommend that S390 is the final module of your undergraduate qualification.** Working effectively at this level is excellent preparation for the independent work that you will undertake in your Project Module.

If you wish to study SXB390 or SXE390, you will undertake an investigative (field-based (including your garden), laboratory-based or data-based) project and we strongly advise that you have successfully completed a module that involves experimental design, an Open University laboratory or field school, or you are already working in a laboratory environment. Recommended modules include S295, S317, S290, S285, SDT306, S209, S206

If you wish to study SXH390 you will undertake an investigative project and we strongly advise that you have successfully completed a module that involves experimental design. Recommended modules include S290, SXHL288, S285.

If you wish to study SXC390 or SXG390 and you choose to undertake a practical or investigative (field based (including your garden), laboratory based or data-based) project rather than a literature review we strongly advise that you have successfully completed a module that involves experimental design, an Open University laboratory or field school, or you are already working in a laboratory environment. Recommended modules include S295, S317, S290, S285, S206, S309, SDT306, S209

4 Information Literacy Skills (LIL)

This module requires you to develop and use your information literacy skills gained in your previous studies as you research and evaluate materials and data in your chosen topic area. This module assumes that you have the skills expected of a student who has completed 60 credits of Level 3 study. If you are unsure of whether you have the skills relating to information literacy you can check by working through the following activity

Information Literacy skills: do you have the Level 2 skills you need?

As you work through this activity, if you identify any skills which you feel you are yet to develop, or need to refresh, you will be directed to associated activities to provide you with training in these areas. You are strongly encouraged to work through these associated activities if necessary as they will greatly assist your performance in this module

5 Other Skills

The module learning outcomes list the skills that you should be able to demonstrate during and on completion of the module but we do not expect you to have mastered all of these at the start. Clearly, the higher the level of your skills at the beginning, the less you will need to work on them during the study year. .

You may have some experience of initiating and carrying out project work so we would anticipate that you will come with an ability to organise time for study and to pace it, an ability to analyse your own skills and have thoughts about how to develop them further. You would also come with a willingness to seek help or information, working closely with your tutor, when appropriate.

You will need to obtain, evaluate and interpret information and data and work with literature at the forefront of current research. Using your IL skills (see above) you will be willing to develop further your critical reading and writing skills to report on your own project findings.

We would expect that you are a reflective, adaptable and flexible learner as you study developing effective self-managed study.

You may not be very confident with all aspects of the key skills learning outcomes, but as an experienced OU student you will have a firm foundation on which to build the appropriate practical and professional skills.

6 Areas where you can prepare

The module materials will provide guidance on:

- selecting and planning your project
- locating information
- reading critically
- recording information and referencing
- writing a report in the required format
- monitoring and evaluating your progress through the work.

However, there are six areas where we recommend you can usefully undertake preparation, to get you off to a flying start once the module actually begins:

1. You will need to allocate around 300 hours for work on this module, so first map out your available study time for the academic year ahead - block out time for known holidays and work and personal commitments. You will then have the time framework into which you will build your detailed project plan. Build in some contingency time to deal with the unexpected things that occur in life disrupting study.
2. Check that you can readily locate resources that may be relevant from modules previously studied.
3. Ensure that you are online and familiar with module forums and online rooms. You will be using these frequently to communicate with your tutor and other students on your version of the module.
4. Access the Open Library electronic resources and work through the library online training to familiarise yourself with any of the aspects of searching for, organising or evaluating information with which you do not presently feel completely confident locating and downloading abstracts or full text of articles in your discipline area would be an excellent goal to aim for in preparation for your work on the Science Level 3 Project module.

5 Ensure you are familiar with Office 365 (or whichever word processing package you normally use) as there are several instances in the module where you will be expected to use this software including creating a project plan (Gantt chart document in Excel), log your progress and evaluate your skills (using tables in word). Additionally, you will be required to produce a short presentation so you may wish to explore the functions of PowerPoint that might help you with doing this.

   For each assessment point you are required to submit multiple documents and zipping them together before submitting them is a useful skill to practice. For more information see Zipping (combining and compressing) your files | Help Centre | The Open University

6 For students studying a practical/investigation project (SXB, SXE, SXH) (optional for SXG, SXC) ensure you are up to date with scientific research methods, data evaluation and statistical analysis. Review resources from modules previously studied and consider reviewing how to use statistical analysis software such as Excel, SPSS and StatsCloud.