

UNIVERSITY OF EDUCATION WINNEBA

COURSE OUTLINE FOR STUDENTS

**ISB 121 METHODS AND ASSESSMENT
IN INTEGRATED SCIENCE**

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Acknowledgements

The Department of Basic Education wishes to thank those below for their contribution to this lesson notes:

M. K. Amedeker

The Department of Science Education
South Campus

Fax: +233-432139

E-mail: mawuden@yahoo.com

Website: www.mkamedeker/studies/lessonotes.html

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About this Course

How this Course is structured

The course overview

The course overview gives you a general introduction to the course. Information contained in the course overview will help you determine:

- that the course is not above your standard and is useful for your preparation to teach and assess students in Integrated Science.
- that students come to science classes with already formed concepts about the topics taught in science.
- the various methods of teaching, learning and assessing students in Integrated Science
- that about 10 - 12 weeks of meeting for at least two hours will be needed to complete the course.

The overview also provides guidance on:

How to manage your individual study skills.

Where to get help.

Course assignments and assessments.

Activity icons.

Units.

We strongly recommend that you read the overview *carefully* before starting your study.

The course content

The course is broken down into units. Each unit comprises:

- An introduction to the unit content.

Unit outcomes.

New terminology.

Core content of the unit with a variety of learning activities.

A unit summary.



Assignments and/or assessments, as applicable.

Resources

For those interested in learning more on this subject, we provide you with a list of additional resources at the end of this Course Outline. These are the reference books given.

Your comments

After completing *Methods and Assessments in Integrated Science* we would appreciate it if you would take a few moments to give us your feedback on any aspect of this course. Your feedback might include comments on:

- Course content and structure.

Course reading materials and resources.

Course assignments.

Course assessments.

Course duration.

Course support (assigned tutors, technical help, etc.)

Your constructive feedback will help us to improve and enhance this course.

Course overview

Welcome to Methods and Assessment in Integrated Science

Course outcomes



Outcomes

Upon completion of Methods and Assessment In Integrated science you will be able to:

- Distinguish between behaviorists and constructivists learning theories
- Apply the learning theories to teaching science at the basic school level
- Distinguish between appropriate and inappropriate classroom assessment
- Plan instruction integrated with assessment for learning

Timeframe



How long?

The entire course will take about 10 weeks to complete. We will meet for at least two hours per week

Study skills



As an adult learner your approach to learning will be different to that from your school days: you will choose what you want to study, you will have professional and/or personal motivation for doing so and you will most likely be fitting your study activities around other professional or domestic responsibilities.

Essentially you will be taking control of your learning environment. As a



consequence, you will need to consider performance issues related to time management, goal setting, stress management, etc. Perhaps you will also need to reacquaint yourself in areas such as essay planning, coping with exams and using the web as a learning resource.

Your most significant considerations will be *time* and *space* i.e. the time you dedicate to your learning and the environment in which you engage in that learning.

We recommend that you take time now—before starting your self-study—to familiarize yourself with these issues. There are a number of excellent resources on the web. A few suggested links are:

- <http://www.how-to-study.com/>

The “How to study” web site is dedicated to study skills resources. You will find links to study preparation (a list of nine essentials for a good study place), taking notes, strategies for reading text books, using reference sources, test anxiety.

- <http://www.ucc.vt.edu/stdysk/stdyhlp.html>

This is the web site of the Virginia Tech, Division of Student Affairs. You will find links to time scheduling (including a “where does time go?” link), a study skill checklist, basic concentration techniques, control of the study environment, note taking, how to read essays for analysis, memory skills (“remembering”).

- <http://www.howtostudy.org/resources.php>

Another “How to study” web site with useful links to time management, efficient reading, questioning/listening/observing skills, getting the most out of doing (“hands-on” learning), memory building, tips for staying motivated, developing a learning plan.

The above links are our suggestions to start you on your way. At the time of writing these web links were active. If you want to look for more go to www.google.com and type “self-study basics”, “self-study tips”, “self-study skills” or similar.

Need help?



Help

M. K. Amedeker, Department of Science Education

Contact:

Mobile: 0248 717066

Email: mawuden@yahoo.com

Assignments



Assignments

Assessments



Assessments

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Getting around this [DOCUMENT TYPE]

Margin icons

While working through this [DOCUMENT TYPE] you will notice the frequent use of margin icons. These icons serve to “signpost” a particular piece of text, a new task or change in activity; they have been included to help you to find your way around this [DOCUMENT TYPE].

A complete icon set is shown below. We suggest that you familiarize yourself with the icons and their meaning before starting your study.

 Activity	 Assessment	 Assignment	 Case study
 Discussion	 Group activity	 Help	 Note it!
 Outcomes	 Reading	 Reflection	 Study skills
 Summary	 Terminology	 Time	 Tip

Unit 1

Method and Assessment in Integrated Science

Introduction

Upon completion of this unit you will be able to:



Outcomes

- identify the various science process skills
- learn how to use the process skills to achieve science products
- distinguish between the psychology of the various behaviourist scientists
- apply behaviourist teaching and learning techniques in classroom situations



Terminology

Science process skills: The skills needed to perform various activities in the science class

Behaviourists' theories: Theories that deal with learning as observable behaviour of the learner

Unit summary



Summary

In this unit you learned terms associated with skills that are useful for the performance of various activities in the science laboratory. You have also learned some of the theories propounded by behavioural psychology for teaching and learning of science.



Assignment Number1



Assignment

Write on any ONE of the following topics

1. Piaget's focus on qualitative development had an important impact on education. Piaget might not have applied specifically his theory to education but many educational programmes are based on the belief that children should be taught at the developmental levels they have reached. Choose a teaching situation in which you were involved (either hypothetically or real) and demonstrate how you accomplished a lesson by the use of Piaget's theory. Your discussion should include class taught, topic taught and how you achieved the objectives of your lesson. Your entire narration should not be more than two pages.
2. Piaget's theory of cognitive development though highly regarded in educational programmes did not escape serious criticisms of many developmental psychologists. Discuss in a two-page write-up why Piaget's theory was considered flawed, noting particularly the settings in which his research was conducted and problems with the theory. Search for a published article and use facts you gather from it to support your discussion. (Attach a copy of the article you use).

SUBMISSION

You may submit your assignment to me individually at your own convenience but not later than March 14, 2008.

Assessment



Assessment

[Add assessment text here]

[Continue your body text here]



Unit 2

[Add unit title here]

Introduction

[Add introductory text here]

Upon completion of this unit you will be able to:



Outcomes

- [complete the sentence].
[complete the sentence].



Terminology

- | | |
|---------|--------------------|
| [Term]: | [Term description] |

[Add topic text here]

Unit summary



Summary

In this unit you learned [Add summary text here - you may wish to use the unit outcomes to write this text]

[Continue your body text here]

Assignment



Assignment

[Add assignment text here]

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Assessment



Assessment

[Add assessment text here]

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Unit 3

[Add unit title here]

Introduction

[Add introductory text here]

Upon completion of this unit you will be able to:



Outcomes

- [complete the sentence].
[complete the sentence].



Terminology

- | | |
|---------|--------------------|
| [Term]: | [Term description] |

[Add topic text here]

Unit summary



Summary

In this unit you learned [Add summary text here - you may wish to use the unit outcomes to write this text]

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Assignment



Assignment

[Add assignment text here]

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Assessment



Assessment

[Add assessment text here]

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Unit 4

[Add unit title here]

Introduction

[Add introductory text here]

Upon completion of this unit you will be able to:



Outcomes

- [complete the sentence].
[complete the sentence].



Terminology

- | | |
|---------|--------------------|
| [Term]: | [Term description] |

[Add topic text here]

Unit summary



Summary

In this unit you learned [Add summary text here - you may wish to use the unit outcomes to write this text]

[Continue your body text here]

Assignment



Assignment

[Add assignment text here]

[Continue your body text here]

Assessment



Assessment

[Add assessment text here]

[Continue your body text here]