



UNIVERSITI TEKNOLOGI MARA

BDY631: FOREST STAND DYNAMICS

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| Course Name (English) | FOREST STAND DYNAMICS APPROVED |
| Course Code | BDY631 |
| MQF Credit | 3 |
| Course Description | This course emphasizes on the understanding of the development of forest structure, the role of disturbance which underlying physical and biological forces, both by natural and anthropogenic influences. It also introduces the continuous state of change that alters the composition and structure of a forest and use of this knowledge in silvicultural systems and management of the forest in Malaysia. |
| Transferable Skills | Skills and how they are developed and assessed, Project and practical experience and Internship On completion of the course the student will be able to: 1. Deep knowledge on forest stand structure. 2. Sampling technique. 3. Communicate effectively with others to solve some given situations and problems. 4. Data management skill. |
| Teaching Methodologies | Lectures, Lab Work, Field Trip, Discussion, Presentation |
| CLO | CLO1 Describe the principle of forest stand dynamics to the development of forests of various structures. CLO2 Apply various methods of sampling trees and stands in the field. CLO3 Assess and interpret data and parameters of forest stands for controlling their growth. CLO4 Analyze the impact of disturbance caused by anthropogenic and natural activities on the forest stands dynamics and its management. |
| Pre-Requisite Courses | No course recommendations |
| Topics | |
| 1. Introduction to Forest Stand Dynamics 1.1) N/A | |
| 2. Succession Theory and History 2.1) N/A | |
| 3. Tree Architecture and Growth 3.1) N/A | |
| 4. Disturbance and their Impacts on Forest Development Patterns 4.1) N/A | |
| 5. Stand Regeneration after Disturbance 5.1) N/A | |
| 6. Stand Development Pattern and Role of Space and Time in Stand Development 6.1) N/A | |
| 7. Stages of Stand Development 7.1) N/A | |
| 8. Classification by Structure and Disturbance 8.1) N/A | |
| 9. Canopy Stratific and Gap Dynamics 9.1) N/A | |

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| 10. Forest Stand Structure Sampling Methods 10.1) N/A |
| 11. Statistical Analysis and Models of Stand Development 11.1) N/A |
| 12. Introduction to Statistical for Tree Diversity 12.1) N/A |
| 13. Forest Ecosystem and Management 13.1) N/A |
| 14. Forest Pattern Across Large Landscapes 14.1) N/A |

| Assessment Breakdown | % |
|-----------------------|--------|
| Continuous Assessment | 60.00% |
| Final Assessment | 40.00% |

| Details of Continuous Assessment | Assessment Type | Assessment Description | % of Total Mark | CLO |
|----------------------------------|-----------------|------------------------|-----------------|------|
| | Assignment | n/a | 5% | CLO4 |
| | Practical | n/a | 20% | CLO2 |
| | Presentation | n/a | 5% | CLO3 |
| | Quiz | theory | 10% | CLO1 |
| | Test | theory | 20% | CLO1 |

| Reading List | Recommended Text | <ul style="list-style-type: none"> • Husch, B., Beers, T.W. and Kershaw, J.A.Jr. 2003, <i>Forest Mensuration</i>, John Wiley and Sons, Inc. Hoboken New Jersey • Symington, C.F. Revised by P.S. Ashton & S. Appanah; edited by H.S. Barlow 2004, <i>Foresters' Manual of Dipterocarps</i>, 2nd. Ed. Ed., Forest Research Institute Malaysia Kuala Lumpur • Mabberley, D.J. 1992, <i>Tropical rain forest ecology</i>, Blackie and Son Glasgow • Molles, M.C. 2008, <i>Ecology: Concepts and Applications</i>, McGraw-Hill Higher Education Boston • Spurr, S.H. and Barner B.V. 1973, <i>Forest Ecology</i>, Ronald Press Co. New York • Kimmins, J.P. 2004, <i>Forest Ecology: A Foundation for Sustainable Forest Management and Environmental Ethics in Forestry.</i>, Pearson Prentice Hall Upper Saddle River, NJ. |
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| | Reference Book Resources | <ul style="list-style-type: none"> • Oliver, C.D. and Larson B.C. 1996, <i>Forest Stand Dynamics</i>, John Wiley and Sons, Inc. Hoboken New Jersey. |
| Article/Paper List | This Course does not have any article/paper resources | |
| Other References | This Course does not have any other resources | |