



Satuan Acara Pengajaran

SCBI603509 - Ekologi Perairan Tawar

Pengajar

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Tujuan Perkuliahan

Mahasiswa dapat mengetahui batasan Ekologi perairan tawar dan ekosistem perairan tawar, memahami interaksi antara biota akuatik dengan faktor lingkungannya, dapat menerapkan prinsip dan konsep ekologi dalam pengelolaan lingkungan perairan tawar, dan aspek biologi pencemaran perairan.

Minggu 1

Materi Pendahuluan.Batasan dan ruang lingkup Ekologi Perairan Tawar: Batasan dan ruang lingkup Ekologi Perairan Tawar, tipe-tipe ekosistem perairan tawar.

Media White board, LCD, PC/Laptop & digital hand out.

Referensi Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.

Aktivitas Tatap muka & diskusi kelas.

Minggu 2

Materi Faktor-faktor fisika perairan tawar: Berbagai macam parameter fisik, kaitannya dengan kualitas lingkungan perairan tawar

Media White board, LCD, PC/Laptop & digital hand out.

Referensi Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.

Aktivitas Tatap muka & diskusi kelas.

Minggu 3

Materi Faktor-faktor kimia perairan tawar: Berbagai macam parameter kimia, kaitannya dengan kualitas lingkungan perairan tawar.

Media White board, LCD, PC/Laptop & digital hand out.

Referensi Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.

Aktivitas Tatap muka & diskusi kelas.

Minggu 4

Materi Ekosistem danau: Berbagai macam danau, morfometri danau, stratifikasi suhu, cahaya, dan oksigen terlarut (DO).

Media White board, LCD, PC/Laptop & digital hand out.

- Referensi** Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
- Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
- Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
- Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.
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Aktivitas Tatap muka & diskusi kelas.

Minggu 5

Materi Ekosistem sungai: Karakteristik sungai dan biotanya, sebaran spasial ikan air tawar di sepanjang daerah aliran sungai.

Media White board, LCD, PC/Laptop & digital hand out.

- Referensi** Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
- Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
- Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
- Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.
-

Aktivitas Tatap muka & diskusi kelas.

Minggu 6

Materi Aspek fisika-kimia pencemaran perairan: Pencemaran perairan dan kaitannya dengan berbagai faktor fisika kimia air.

Media White board, LCD, PC/Laptop & digital hand out.

Referensi	<p>Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.</p> <p>Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.</p> <p>Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.</p> <p>Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.</p>
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Aktivitas	Tatap muka & diskusi kelas.
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Minggu 7

Materi	Tugas mandiri penulisan makalah: Penulisan makalah tentang topik-topik tertentu yang terkait dengan berbagai masalah di ekosistem perairan tawar.
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Media	White board, LCD, PC/Laptop,digital hand out & makalah.
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Referensi	Berbagai sumber terkait, jurnal, laporan penelitian, tex book, media on line dll
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Aktivitas	Penyajian makalah dan diskusi kelompok.
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Minggu 8

Materi	UJIAN TENGAH SEMESTER (UTS)
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Media	Kertas soal, kertas buram, kalkulator, daftar tabel statistik dan lembar jawaban.
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Referensi	
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Aktivitas	Ujian tulis
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Minggu 9

Materi	Biota akuatik di perairan tawar: Berbagai jenis biota akuatik yang berperan sebagai produsen, konsumen, dan dekomposer.
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Media	White board, LCD projector, PC/Laptop, digital hand out (power point), & tabel ragam biota akuatik.
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- Referensi** Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellowell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York
-

Aktivitas Tatap muka & diskusi kelas.

Minggu 10

Materi Suksesi dan eutrofikasi perairan: Suksesi dan eutrofikasi danau dan dampaknya terhadap kelangsungan hidup biota akuatik.

Media White board, LCD, PC/Laptop & digital hand out.

- Referensi** Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellowell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York
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Aktivitas Tatap muka, diskusi kelas, & praktik lapangan.

Minggu 11

Materi Aspek biologi pencemaran perairan: Biota akuatik sebagai bioindikator pencemaran perairan oleh limbah organik.

Media White board, LCD, PC/Laptop & digital hand out.

Referensi Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.

Aktivitas Tatap muka, diskusi kelas, & praktik lapangan.

Minggu 12

Materi Indeks Mutu Lingkungan Perairan (IMLP), Berbagai Indeks Biotik (IB), River Continuum Concept (RCC) & Indeks Keragaman (H): Penggunaan IMLP, IB, RCC & H dalam pemantauan pencemaran kualitas perairan tawar.

Media White board, LCD, PC/Laptop, digital hand out & lembar kerja.

Referensi Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.

Aktivitas Tatap muka, diskusi kelas, latihan penggunaan berbagai indeks.

Minggu 13

Materi Pengelolaan ekosistem perairan tawar: Faktor-faktor internal dan eksternal yang perlu dipantau dan dikendalikan dalam rangka pengelolaan perairan tawar.

Media White board, LCD, PC/Laptop & digital hand out.

- Referensi** Bayly, I.A.E. & W.D. Williams. 1981. Inland waters and their ecology. Longman Cheshire, Melbourne.
- Hellawell, J.M. 1986. Biological indicators of freshwater pollution and environmental management. Elsevier Applied Science Publishers, London.
- Ott, W.R. 1978. Environmental indices: theory and practice. Ann Arbor Publ.Reid, G.K. & R.D. Wood. 1976. Ecology of inland waters and estuaries. D.van Nostrand Company, New York.
- Wetzel, R.G. & G.E. Likens. 1991. Limnological analyses 2nd. Springer-Verlag, New York.
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Aktivitas Tatap muka & diskusi kelas.

Minggu 14

Materi Studi lapangan di perairan lotik: Berbagai aspek ekologi dalam ekosistem lotik.

Media White board, LCD, PC/Laptop, digital hand out & berbagai peralatan pengukuran parameter perairan.

Referensi Diktat penuntun praktikum pengukuran parameter perairan.

Aktivitas Diskusi kelas & praktik lapangan.

Minggu 15

Materi Studi lapangan di perairan lentik: Berbagai aspek ekologi dalam ekosistem lentik.

Media White board, LCD, PC/Laptop, digital hand out & berbagai peralatan pengukuran parameter perairan.

Referensi Diktat penuntun praktikum pengukuran parameter perairan.

Aktivitas Diskusi & praktik lapangan.

Minggu 16

Materi UJIAN AKHIR SEMESTER (UAS)

Media Lembar soal dan lembar jawaban.

Referensi

Aktivitas Ujian tulis
