

# TE0014 – Avfallshantering Schema 2020 – Version 3.0

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| Datum        | Start | Slut |     | Föreläsning                                                | Plats                                                                                                          | Litteratur                                                                                                                                                                                                                                                                     |
|--------------|-------|------|-----|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fre 6<br>nov | 9:15  | 10   | F0  | Introduktion (CL)                                          | <a href="https://slu-se.zoom.us/j/63328914564">https://slu-se.zoom.us/j/63328914564</a><br><br>Passcode:088677 |                                                                                                                                                                                                                                                                                |
|              | 10:15 | 12   | F01 | Avfallssammansättning, insamlingssystem & förbränning (BV) | <a href="https://slu-se.zoom.us/j/66749271266">https://slu-se.zoom.us/j/66749271266</a><br><br>Passcode:592883 | Biological waste treatment in Europe<br>Svensk avfallshantering 2018<br>Urban solid waste management in low-income countries of Asia Zurbrugg (2002): pp 1-13<br><a href="#">Miljömål</a> samt <a href="#">Etappmål avfall</a> och <a href="#">Etappmål giftfria kretslopp</a> |
| Fre 6<br>nov | 13:15 | 16   | F02 | Deponering (JM)                                            | <a href="https://slu-se.zoom.us/j/65713010223">https://slu-se.zoom.us/j/65713010223</a><br><br>Passcode:247121 |                                                                                                                                                                                                                                                                                |
| To 12<br>nov | 9:15  | 10   | F03 | Kompostering - Systemdesign (EE)                           | <a href="https://slu-se.zoom.us/j/69887152006">https://slu-se.zoom.us/j/69887152006</a><br><br>Passcode:666136 | cornell_composting                                                                                                                                                                                                                                                             |
|              | 10:15 | 12   | F04 | Kompostering: Nedbrytbarhet och mognad (EE)                |                                                                                                                | Komposteringsteknik (Haug) Kapitel 10<br>Beck-Friis et al. 2003. Composting of source-separated household organics at different oxygen levels: pp 41-50.                                                                                                                       |

| Datum     | Start | Slut |     | Föreläsning                                                        | Plats                                                                                                      | Litteratur                                                                                                                                                       |
|-----------|-------|------|-----|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |       |      |     |                                                                    |                                                                                                            | The science of composting. Chapter 5 Stability, maturity and phytotoxicity. Epstein E. 1997. 107-133                                                             |
| Fr 13 nov | 8:15  | 10   | F05 | Kompostering - kemiska och fysiska parametrar (EE)                 | <a href="https://slu-se.zoom.us/j/67900024238">https://slu-se.zoom.us/j/67900024238</a><br>Passcode:700568 | Richard et al 2002<br>Komposteringsteknik (Haug) – Kap 3; Kap 6                                                                                                  |
|           | 10:15 | 12   | F06 | Kompostering - Energi och luftning (EE)<br><a href="#">Formler</a> |                                                                                                            | Komposteringsteknik(Haug) – Kap 3; Kap 7; Kap 8, Förkortningar                                                                                                   |
| To 19 nov | 8:15  | 10   | F07 | Global waste management (CZ)                                       | <a href="https://slu-se.zoom.us/j/69772071780">https://slu-se.zoom.us/j/69772071780</a><br>Passcode:633811 | FN:s Sustainable development goals                                                                                                                               |
|           | 10:15 | 12   | F08 | Waste management in relation to the SDGs (CZ)                      |                                                                                                            |                                                                                                                                                                  |
| Fr 20 nov | 8:15  | 11   | F09 | Biogas process: technology and microbiology (AS)                   | <a href="https://slu-se.zoom.us/j/69200392107">https://slu-se.zoom.us/j/69200392107</a><br>Passcode:274882 | Schnürer and Jarvis (2018) Microbiology of the biogas process<br>Schönborn (1986). Biotechnology, volume 8. Microbial degradations: pp 210-239 (Extralitteratur) |
|           | 11:15 | 12   | F10 | Biogas processteknik (ÅN)                                          | <a href="https://slu-se.zoom.us/j/64955574314">https://slu-se.zoom.us/j/64955574314</a><br>Passcode:713519 |                                                                                                                                                                  |
|           | 13:15 | 15   |     | Beräkning av utbyte (ÅN)                                           | <a href="https://slu-se.zoom.us/j/64707592415">https://slu-se.zoom.us/j/64707592415</a>                    |                                                                                                                                                                  |

| Datum            | Start | Slut  |     | Föreläsning                                              | Plats                                                                                                          | Litteratur                                                                                                                                                                                                                                                                   |
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|                  |       |       |     | Räkneövning Lösning                                      | Passcode:355886                                                                                                |                                                                                                                                                                                                                                                                              |
| <b>To 26 nr</b>  | 13    | 15    | F11 | Omvandling av avfall med hjälp av maskar och larver (CL) | Sal S                                                                                                          | Cickova Kozanek 2015 The use of fly larvae for organic waste treatment<br>Edwards 2006 The science of vermiculture: The use of earthworms in organic waste management                                                                                                        |
|                  | 15:30 | 17:30 |     | Beräkningsuppgift                                        |                                                                                                                |                                                                                                                                                                                                                                                                              |
| <b>Fr 27 nov</b> | 9:00  | 10:00 |     | ORWARE datorlabb (EE/LL) <b>Obligatorisk</b>             | Datorsal 1/Datorsal 2, Bibliotek                                                                               | Dalemo m. fl. - 1997 - ORWARE A simulation model for organic waste... (attached)<br>Orware Support Document<br>Svensk avfallshantering 2018<br><br>What a Waste 2.0: Overview (pages 1-12)                                                                                   |
|                  | 10:30 | 12:30 |     | ORWARE datorlabb (EE/LL) <b>Obligatorisk</b>             |                                                                                                                |                                                                                                                                                                                                                                                                              |
|                  | 13:00 | 15:00 |     | ORWARE datorlab (EE/LL) <b>Obligatorisk</b>              |                                                                                                                |                                                                                                                                                                                                                                                                              |
|                  | 15:30 | 17:30 |     | ORWARE datorlab (EE/LL) <b>Obligatorisk</b>              |                                                                                                                |                                                                                                                                                                                                                                                                              |
| <b>To 3 dec</b>  | 8:15  | 10    | F12 | Systemanalys (JMC)                                       | <a href="https://slu-se.zoom.us/j/64495371370">https://slu-se.zoom.us/j/64495371370</a><br><br>Passcode:251513 | Watch <a href="#">introductory video</a> (11 min) in Media gallery on Canvas before this lecture.                                                                                                                                                                            |
|                  | 10:15 | 12    | F13 | Introduktion till patogener (AN)                         | <a href="https://slu-se.zoom.us/j/62884914145">https://slu-se.zoom.us/j/62884914145</a><br><br>Passcode:525486 | <a href="#">Bad Bug Book: Introduction Foodborne Pathogenic Microorganisms and Natural Toxins Handbook</a> . US FDA (Food and Drug Administration) Read about: Campylobacter, Vibrio, Salmonella, Shigella, EHEC, Entamoeba, Cryptosporidium, Giardia, Ascaris and Trichuris |

| Datum            | Start | Slut |     | Föreläsning                                                            | Plats                                                                                                          | Litteratur                                                                                                                                                                        |
|------------------|-------|------|-----|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |       |      |     |                                                                        |                                                                                                                | <a href="#">Sources of Pathogenic Microorganisms and Their Fate during Land Application of Wastes</a> . Gerba C.P. (2005): pp 42-47                                               |
| Fr 4 dec         | 9:15  | 11   | F14 | Hygieniseringsteknik (AN)                                              | <a href="https://slu-se.zoom.us/j/68770521975">https://slu-se.zoom.us/j/68770521975</a><br><br>Passcode:641104 | Biosecurity and arable use of manure and biowaste — Treatment alternatives. Albiñ A. (2007): pp 232-239                                                                           |
|                  | 11:15 | 12   |     | Beräkningar (AN) intro<br><br><b>Formelsamling för hygienberäkning</b> |                                                                                                                | Räkneuppgifter<br><br>Sanitation calculations overview<br><br>Sanitation and Hygiene in Manure Management. Vinnerås B. (2013).                                                    |
|                  | 13:15 | 15   |     | Beräkningsövning hygien teknik (AN)                                    | <a href="https://slu-se.zoom.us/j/68516057780">https://slu-se.zoom.us/j/68516057780</a><br><br>Passcode:023644 |                                                                                                                                                                                   |
| <b>To 10 dec</b> | 08:00 | 16   |     | Studiebesök Eskilstuna Strängnäs Energi & Miljö<br><br><b>Inställt</b> |                                                                                                                | Det kommer finnas länkar till introduktionsvideo från Eskilstuna Strängnäs Energi & Miljö på Canvas. Beöket kommer att ersättas med en uppgift som kommer att beskrivas i Canvas. |
| <b>Fr 11 dec</b> | 8:15  | 10   | F15 | Återanvändning av växtnäring från restprodukter (SD)                   | <a href="https://slu-se.zoom.us/j/61812433457">https://slu-se.zoom.us/j/61812433457</a><br><br>Passcode:682430 |                                                                                                                                                                                   |
|                  | 10:15 | 12   | F16 | Avfallsjuridik (JC)                                                    | <a href="https://slu-se.zoom.us/j/66824467541">https://slu-se.zoom.us/j/66824467541</a><br><br>Passcode:284549 |                                                                                                                                                                                   |

| Datum           | Start | Slut  | Föreläsning         | Plats                                                                                                      | Litteratur                                                        |
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|                 | 13:15 | 15    | F17 Lukt (CL)       | <a href="https://slu-se.zoom.us/j/62710817916">https://slu-se.zoom.us/j/62710817916</a><br>Passcode:450270 | Guiteres et al. 2014<br>Komposterings teknik (Haug) - luktkapitel |
| <b>Fr 11 de</b> |       | 17    | Inlämning av Orware |                                                                                                            |                                                                   |
| <b>15 jan</b>   | 8:00  | 13:00 | Examination         |                                                                                                            | Formelsamling som används på tentan                               |

## Föreläsare

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- JM** Josef Mácsik, Ecoloop
- JMC** Jennifer McConville, Docent kretsloppsteknik
- CZ** Christian Zurbrügg, Eawag, Sandec
- SD** Sofia Delin, Docent i markvetenskap, SLU Alnarp

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