# SV0047 Raw Material Properties & Refining Processes

## Schedule for Autumn 2024 (2024-09-02 - 2024-10-31) Note: Subject to change!

| V | Lit. | Date | Time | Introduction | Venue | Lecturer |
|---|---|---|---|---|---|---|
| **36** | | 2/9 | | | | |
| | | 3/9 | 9-12 | Welcome and introduction | Sälgen | DA, MT, MF |
| | | 4/9 | | Individual/group study time | | |
| | | 5/9 | 9-12 | Wood structure from macroscale to molecule | Sälgen | CC |
| | | 6/9 | 9-12 | Wood structure from macroscale to molecule | Sälgen | CC |
| Part I. Traditional forest products | | | | | | |
| **37** | | 9/9 | | Individual/group study time | | |
| | | 10/9 | 10-12 | Presentations of mini projects | Sälgen | DA |
| | | 11/9 | 9-12 | Modern wood products/classification/strength | Björken* | CC |
| | | 12/9 | | Individual/group study time | | |
| | | 13/9 | 9-12 | Pulp and paper making | Sälgen | MF |
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| **38** | | 16/9 | | Individual/group study time | | |
| | | 17/9 | 9-12 | Global wood product market + sawmill operation | Sälgen | JH |
| | | 18/9 | 9-12 | Seminar on Lit. Study (fibre) | Sälgen | MF |
| | | 19/9 | 9-12 | Measurement technologies at the sawmill | Sälgen | JO |
| | | 20/9 | 9-12 | Individual/group study time | | |
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| **39** | | 23/9 | 9-12 | Current developments in timber measurement | Zoom | LB |
| | | 24/9 | 9-12 | TBA | Sälgen | TBA |
| | | 25/9 | | Individual/group study time | | |
| | | 26/9 | | Individual/group study time | | |
| | | 27/9 | 9-12 | Synthesis of module 1 | Utsikten | DA |
| On-Campus Week | | | | | | |
| **40** | | 30/9 | 9-12<br>12-13<br>13-16 | Welcome and tour of Skogis,<br>Lunch on campus<br>Sampling/size reduction/biofuel standards | Sälgen<br><br>BTC | MF/DA<br><br><br>MT/GK/MS |
| | | 1/10 | 9-15 | Sävar sawmill study visit | Sävar | JF |
| | | 2/10 | 9-12<br>13-16 | Pelleting and quality determination<br>SCA Obbola study visit | BTC<br>Obbola | GK/MF<br>KJ, DA |
| | | 3/10 | 9-12<br>13-15<br>18-20 | Umeå Energi visit: boilers/fuel mix/ash<br>SIMCA lab demo on NIR data<br>Dinner social event | Dåva<br>Bokskogen*<br>Kårhuset | DA, ÅB, MS2<br>MT |
| | | 4/10 | 9-11<br>11-12<br>12-13 | Mushroom and electrochemistry lab visit<br>UPSC tree genetics and greenhouse tour<br>Farewell Lunch | Sälgen<br>UPSC | SX/GR<br>Ove Nilsson |
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| **V** | **Avsnitt** | **Datum** | **Tid** | Part II. Biomass conversion processes | **Sal** | **Lärare** |
| **41** | | 7/10 | 09-12 | Classification and measurement of forest fuels | Sälgen | EA |
| | | 8/10 | 09-12 | Storage of forest fuels | Sälgen | EA |
| | | 9/10 | 09-12 | Forest fuels at Norra Skog | Sälgen | JA |
| | | 10/10 | 09-12 | Wood pelleting technology and development | Sälgen | MF |

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| | | 11/10 | 09-12 | Emissions and ash chemistry of forest fuels | Sälgen | AS |
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| **42** | | 14/10 | 09-12 | Thermal conversion and combustion | Sälgen | DA |
| | | 15/10 | 09-12 | Biomass pyrolysis and gasification | Sälgen | DA |
| | | 16/10 | 09-11 | Torrefaction and biocoal production | Sälgen | DA |
| | | 17/10 | 13-15 | Extraction of sugar for fuel and new products | Zoom | MN |
| | | 18/10 | 09-12 | Moisture content measurements using NIR Multivariate statistical modelling virtual laboratory | Sälgen | MT |
| Part III. Circular bioeconomy and the future | | | | | | |
| **43** | | 21/10 | 9-12 | Forest and forest products roles in climate politics | Sälgen | MM |
| | | 22/10 | 10-11 | What will we do with the forest in future? | Sälgen | PL |
| | | 23/10 | 9-12 | Delicious mushrooms pre-process wood for biofuel production | Sälgen | SX |
| | | 24/10 | 9-12 | TBA | Sälgen | TBA |
| | | 25/10 | 9-12 | Extraction of valuable compounds from biomass | Sälgen | MA |
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| **44** | | 28/10 | | Individual/group study time | | |
| | | 29/10 | 09-12 | Functional bio-activated carbon materials for environmental and energy applications | Sälgen | GR |
| | | 30/10 | 09-12 | Future of the forest industry | Sälgen | JM |
| | | 31/10 | 09-12 | Synthesis of modules 2&3 | Sälgen | DA, MF |
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Lärare/gästföreläsare:

DA = David Agar (SLU)
MF = Michael Finell (SLU)
KJ = Kristina Jonsson (SCA Obbola)
MT = Mikael Thyrel (SLU)
LB = Lars Björklund (Biometria)
JM = Jonas Mårtensson (SCA)
MS = Markus Segerström (SLU)
EA = Erik Anerud (SLU)
JO = Johan Oja (Norra, Sävar såg)
MN = Monica Normark (KBR)
JA = Jonas Arvidsson (Norra Skog)
MP = Mohsen Parchami (SLU)
TBA = To be announced

MR = Magnus Rudolfsson (SLU)
ÅB = Åsa Benkert (Umeå Energi)
MS2 = Magdalena Söderström (Umeå Energi)
MA = Mehrdad Arshadi (SLU)
AS = Anna Strandberg (UMU)
GR = Glaydson Simoes Dos Reis (SLU)
SX = Shaojun Xiong (SLU)
JH = Johan Hedin (Holmen)
GK = Gunnar Kalén (SLU)
MM = Magnus Matison (Biofuel Region)
PL = Pär Lärkeryd (VD Norra Skog)
JF = Johan Fredriksson (Norra)