# ARCADA UNIVERSITY OF APPLIED SCIENCES







# Info Session – Third Year Studies

MSE23 & MTH23
Sofie Sundström & Laurits Møller
8.5.2025



## **Topics Today**

- Who to Contact?
- Academic Year 25-26
- The First-, Second- & Third-Year Studies
- Development Studies
- Registration for the Academic Year
- Course Enrollment
- Practical Training
- Exchange Studies
- Tuition Fees & Scholarship



## Who to Contact?

### Study Counsellor:

 individual study plans, selection of courses, slower/faster study pace and other study related questions.

### International Student Advisor Laurits Møller:

practical matters about living/studying in Finland

#### Student Affairs:

 Certificates, registration for the academic year, tuition fees, scholarships, student discounts, changes in the student registry, administration of accreditation etc.

### SISU Support:

- Instructions for SISU, technical issues with SISU, if you need help with using SISU
- IT-Support; Library's Support; Career Services



## Academic Year 2025-2026

#### Periodization:

Period 1: 1.8 – 26.10.2025

Period 2: 27.10 – 31.12.2025

Period 3: 1.1 – 22.3.2026

Period 4: 23.3 – 31.7.2026

• Tuition starts: 28 August 2025

• No tuition (winter break): 20 December 2025 – 6 January 2026.

#### Course registration:

Period 1: 11 – 27.8.2025

Period 2: 11.8 – 20.10.2025

Period 3: 2 – 31.12.2025

Period 4: 2.12.2025 –16.3.2026

- NOTE! Changes to these dates might occur. Check updated info in Sisu
- More information on <u>Start</u>



# MSE23 1st & 2nd Year Courses; In Total 120cr

- 115cr Mandatory courses
- 5cr Development studies
- Double check the exact courses in the PDF file on <u>Start</u>

| IICAL AND SUSTAINABLE ENGINEERING  | Kod      |        |     |      |     |    |  |  | 24  |
|--|----------|--------|-----|------|-----|----|--|--|-----|
| education studies (15 sp)  |          | Year 1 |     |      |     |    | Ye   | ar 2   |     |
| Education in a Digital and Sustainable Nordic Society (15 sp)  |          | P1     | P2  | P3   | P4  | P1 | P2   | P3   | P4  |
| Technology and Learning  | GT-1-013 | 5      |     |      |     |    |  |  |     |
| Teamwork and Innovation  | GT-1-014 |        | 5   |      |     |    |  |  |     |
| Ethical and Sustainable Societal Development   | GT-1-015 |        |     | 5    |     |    |  |  |     |
|  |          |        |     |      |     |    |  |  |     |
| onal studies (165 sp)  |          |        | Ye  | ar 1 |     |    | Ye   | ar 2   |     |
| Basic studies in Technology (30 sp)  |          |        |     |      |     |    |  |  |     |
| Linear Algebra   | PM-2-026 |        | 5   |      |     |    |  |  |     |
| Differential calculus  | PM-2-025 |        |     |      |     | 5  |  |  |     |
| Integral calculus  | PM-2-024 |        |     |      |     |    | 5  |  |     |
| Engineering Chemistry  | GT-2-013 | 5      |     |      |     |    |  |  |     |
| Engineering Physics  | GT-2-014 |        |     |      | 5   |    |  |  |     |
| Introduction to programming and automation   | GT-2-024 | 2.5    | 2.5 |      |     |    |  |  |     |
| Sustainable Modelling (15 sp)  |          |        |     |      |     |    |  |  |     |
| Environment and Resources  | GT-2-015 |        |     |      | 5   |    |  |  |     |
| Sustainable Energy and Materials   | GT-2-019 |        |     |      |     | 5  |  |  |     |
| Life Cycle Assessment  | GT-2-020 |        |     |      |     |    |  |  | 5   |
| Technical Modelling (15 sp)  |          |        |     |      |     |    |  |  |     |
| Technical Drawing  | PM-2-030 |        | 5   |      |     |    |  |  |     |
| Computer Aided Design  | PM-2-031 |        |     | 5    |     |    |  |  |     |
| Programming  | GT-2-021 |        |     |      |     |    |  |  | 5   |
| Materials (30 sp)  |          |        |     |      |     |    |  |  |     |
| Materials Chemistry  | PM-2-032 |        |     |      |     |    |  | 5  |     |
| Manufacturing and Processing   | PM-2-034 |        |     |      |     |    |  | 2.5  | 2.5 |
| Material properties  | PM-2-033 |        |     |      |     |    |  |  | 5   |
| Composites   | PM-2-035 |        |     |      |     |    |  |  |     |
| Heat Transfer  | PM-1-006 |        |     |      |     |    |  |  |     |
| Material Selection   | PM-2-041 |        |     |      |     |    |  |  |     |
| Engineering Design (30 sp)   |          |        |     |      |     |    |  |  |     |
| Statics  | PM-2-036 |        |     |      |     |    | 5  |  |     |
| Mechanics of Materials   | IM-2-042 |        |     |      |     |    |  | 5  |     |
| Digital Manufacturing  | PM-2-038 |        |     |      |     |    |  |  |     |
| Finite Element Method  | PM-2-003 |        |     |      |     |    |  |  |     |
| Dynamics   | PM-2-037 |        |     |      |     |    |  |  |     |
| Computer Aided Engineering   | PM-2-039 |        |     |      |     |    |  |  |     |
| Professional Communikation (15 sp)   |          |        |     |      |     |    |  |  |     |
| English Professional Communication MSE   | SP-2-028 |        |     | 2.5  | 2.5 |    |  |  |     |
| Swedish for Beginners 1  | SP-1-004 |        |     | 2.0  | 2.0 | 5  |  |  |     |
| Swedish for Beginners 2  | SP-1-044 |        | -   |      |     |    | 5  |  |     |
| Practical Training (30 sp)   | 01-1-044 |        |     |      |     |    | 0  |  |     |
| Practical Training (30 sp)  Practical Training 1 (can be taken in any summer between 1st and 2nd year) | PM-5-005 |        |     |      |     |    |  |  |     |
|  |          |        | -   |      | _   |    | <del>                                     </del> | <del>                                     </del> |     |
| Practical Training 2 (can be taken in any summer between 2nd and 3rd year)                             | PM-5-006 |        |     |      |     |    |  |  |     |



## MTH23

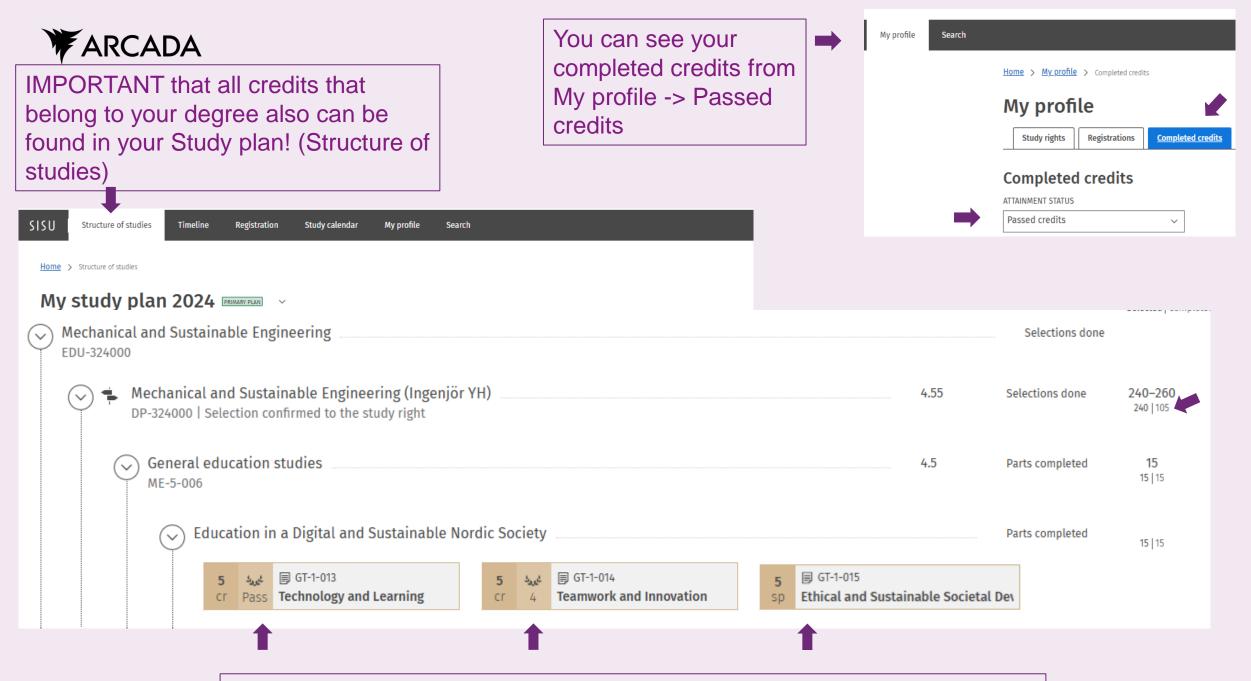
1:a & 2:a årets kurser; Totalt 120 sp

- 115 sp obligatoriska kurser
- 5 sp utvecklingsstudier
- Dubbelkolla kurserna med PDFfilen på <u>Start</u>

| mänbildande studier (15 sp)         År 1         År 2           Bildning i ett digitalt och hållbart nordiskt samhälle (15 sp)         P1         P2         P3         P4         P1         P2         P3           Teknologi och lärande<br>Teamarbete och innovation<br>Etisk och hållbar samhällsutveckling         GT-1-011<br>GT-1-012         5         5         5           Ar 1         År 2         Ar 2         Ar 3         Ar 4         Ar 5           Versionsspecifika studier (165 sp)         År 1         År 2         Ar 2 | P4  |
|---|-----|
| Teknologi och lärande   | P4  |
| Teamarbete och innovation GT-1-011 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5  |     |
| Etisk och hållbar samhällsutveckling GT-1-012 5  fessionsspecifika studier (165 sp) År 1 År 2   |     |
| ofessionsspecifika studier (165 sp) År 1 År 2   |     |
|   |     |
|   |     |
| Basstudier i teknik (30 sp)   |     |
|   |     |
| Linjär algebra EM-1-003 5   |     |
| Differentialkalkyl EM-1-004 5   |     |
| Integralkalkyl EM-1-005   |     |
| Teknisk kemi GT-2-013 5   |     |
| Introduktion till programmering och automation GT-2-024 2.5 2.5   |     |
| Teknisk fysik GT-2-014 5  |     |
| Hållbar modellering (15 sp)   |     |
| Miljö och resurser GT-2-015 5   |     |
| Hållbar energi och material GT-2-019 5  |     |
| Livscykelanalys GT-2-020  | 5   |
| Teknisk modellering (15 sp)   |     |
| Teknisk ritning PM-2-030 5  |     |
| Computer Aided Design PM-2-031 5  |     |
| Programmering GT-2-021  | 5   |
| Materialteknik (30 sp)  |     |
| Materialkemi PM-2-032 5   |     |
| Tillverkning och processer PM-2-034 2.5   | 2.5 |
| Materialegenskaper PM-2-033   | 5   |
| Kompositer PM-2-035   |     |
| Värmeöverföring PM-1-006  |     |
| Materialval PM-2-041  |     |
| Design (30 sp)  |     |
| Statik PM-2-036 5   |     |
| Materialmekanik IM-2-042 5  |     |
| Digital tillverkning PM-2-038   |     |
| Finita elementanalys PM-2-003   |     |
| Dynamik PM-2-037  |     |
| Computer Aided Engineering PM-2-039   |     |
| Professionell kommunikation (15 sp)   |     |
| English Professional Communication SP-2-026 2.5 2.5   |     |
| Svenska och kommunikation för ingenjörer SP-2-024 2.5 2.5   |     |
| Tekniikan suomi SP-2-027 5  |     |
| Praktik (30 sp)   |     |
| Praktik 1 (kan avläggas under sommaren efter år 1 eller år 2) PM-2-004  |     |
| Praktik 2 (kan avläggas under sommaren efter år 2 eller år 3) PM-2-005  |     |

Kod

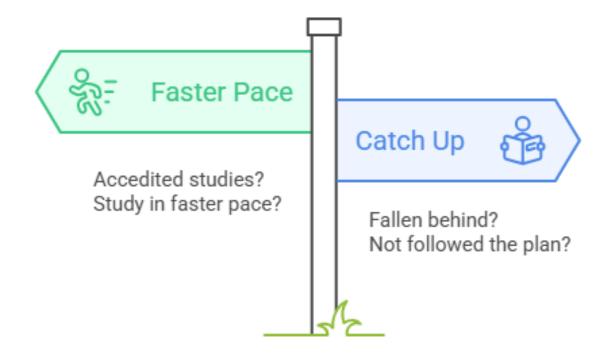
MATERIALTEKNIK OCH HÄLLBARHET & PROCESS- OCH MATERIALTEKNIK



If you have questions or problems, contact SISU SUPPORT (sisu@arcada.fi)!



## **Individual Study Plan?**



-> Contact Study Counsellor



## 3<sup>rd</sup> Year Studies, 60cr

### Mandatory courses; 40cr

- Heat Transfer P1
- Digital Manufacturing P1
- Composites P1-P2
- Dynamics P2
- Writing for Research P3
- Computer Aided Engineering P3-P4
- Material Selection P4
- Finite Element Method P4

### Development studies; 20cr

- Circular Economy
- Plastic Technology
- Advanced Materials Technology
- Project
- Finnish for beginners
- Other?

#### Practical Training during summer?



## Development studies 30cr Optional courses

In what area do you want to deepen your knowledge?

#### **Examples in your study plan:**

Circular economy (15sp)

Plastic Technology (15cr)

Advance Materials Technology (15cr)

Project (5-15cr)

Finnish for beginners (15cr) [MSE]

More alternatives later in the presentation...



## Circular Economy, 15cr

#### Paula Linderbäck

- 2<sup>nd</sup> year
- Circular Economy Principles, P2
- Circular Economy Sectors, P3
- Circular Economy Indicator, P4

#### You will develop:

- •A foundational understanding of circularity in sustainability across technical and biological spheres.
- •Familiarity with material and energy circularity and current industry developments.
- •Skills in systems thinking to identify closed loops, zerowaste solutions, and socio-economic links like the sharing economy.
- •The ability to evaluate evidence and propose regenerative or restorative process couplings.
- •Insight into the future role of engineers in circular economy.
- •Competence in using LCA tools to assess product, process or company performance.
- •The ability to distinguish design intent from actual performance and suggest corrective actions for circular transitions.



## Plastic Technology, 15cr

#### **Silas Gebrehiwot**

- 3<sup>rd</sup> year + 4<sup>th</sup> year
- Fluid Mechanics, P2 (3<sup>rd</sup> year)
- Mould Design, P3 (3<sup>rd</sup> year)
- Processing Methods and Optimization, P1 (4<sup>th</sup> year)

#### You will:

- •Understand basic fluid properties (e.g., density, viscosity) and analyze flow parameters and pressure drops in pipe systems.
- •Use FEM in COMSOL to model laminar fluid flow.
- •Grasp injection moulding principles, machine components, and two-plate mould design.
- •Design moulds, simulate melt flow, prototype, and optimize injection moulding parameters.
- Understand polymer processing technologies and the impact of processing parameters.
- •Use computational tools to model, analyze, and optimize processes through design of experiments (DOE).
- •Appreciate the value of experimental design in improving process efficiency.



## Advanced Materials Technology, 15 cr Rizwan Ullah, Silas Gebrehiwot, Stewart Makkonen-Craig

- 3rd year
- Sustainable Product Design, P1
- Viscoelasticity, P2
- Material analysis, P2

#### You will:

- •Identify and evaluate sustainable materials and manufacturing processes.
- •Apply principles of sustainable product development to engineering design.
- Design efficient, low-waste, resource-conserving products.
- •Understand short- and long-term properties of polymers and the effects of temperature.
- •Analyze material deformation and mechanical responses using computational models.
- Understand and apply modern material analysis methods.
- •Select appropriate analytical techniques for solving engineering material problems.
- •Plan, conduct, and interpret material analysis experiments for failure analysis.

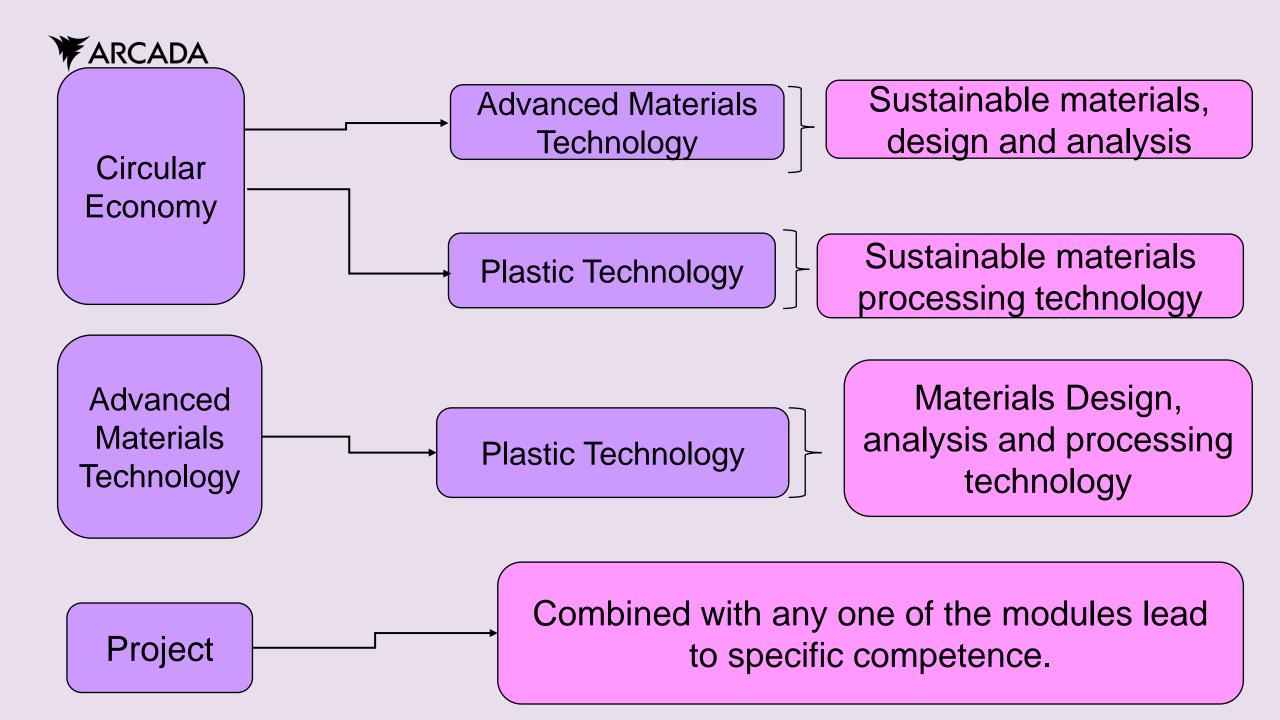


## Project, 5-15cr Silas Gebrehiwot

 Theoretical and practical skills learned during the project are to be planned individually for each student.

 Project is planned, executed and reported according to individual study plan or according to the teachers instructions

• P1-P4





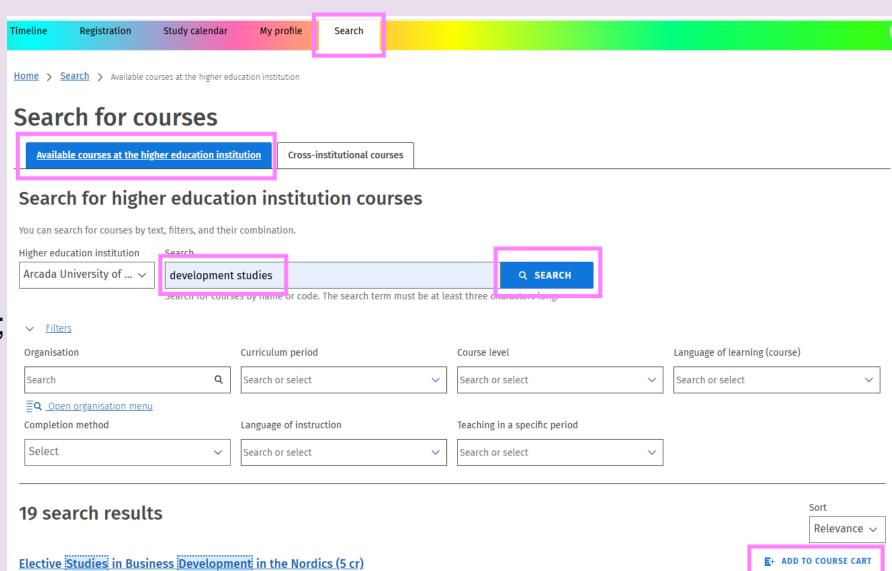
Additional Development Study Courses @ Arcada

Search in Sisu

Example:

Entrepreneurship 15cr

If not Entrepreneurship; Check with Rizwan if the course could be a god fit for your study plan.



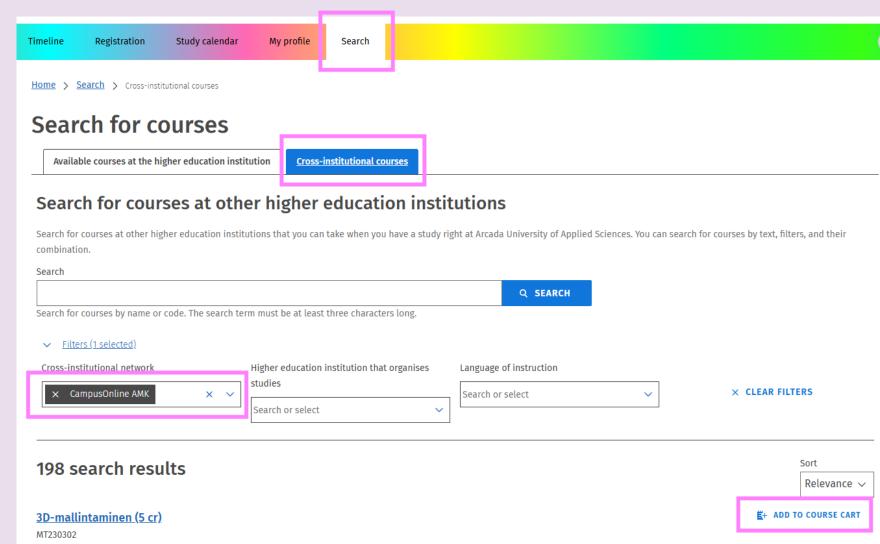


## Campus Online in Sisu

More info and guidelines on Start:

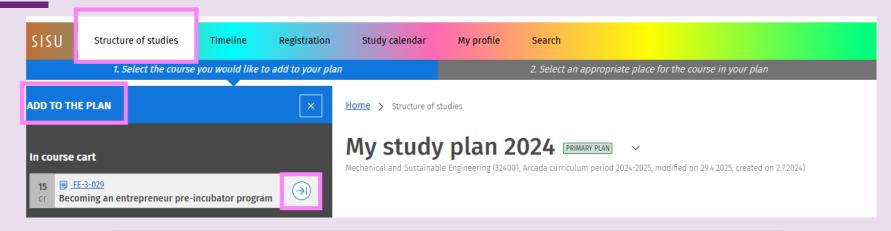
- Video
- Step by step; text

Check with Rizwan if the course could be a god fit for your study plan.

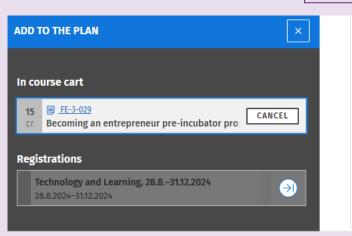


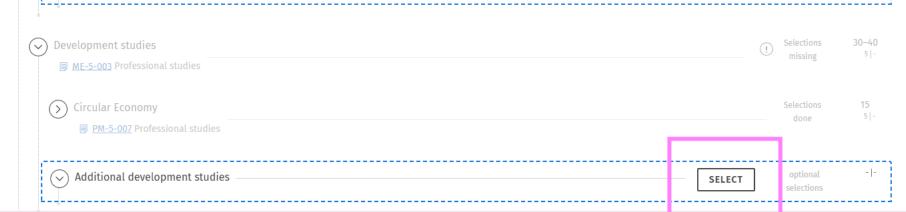


## Add Course to Your Study Plan



Scroll down until you come to Development studies – **Additional Development studies** and click on **Select** 







## Registration for the Academic Year

- Remember to register for the academic year! (present / absent)
  - 15.4–10.9
  - Finnish legislation requires a mandatory registration for each academic year for all students, or they will lose their right to study.
  - Questions? Contact Study Affairs
- Course enrollement for Period 1
  - 11.8-27.8
  - Choose the 2024-2025 version
  - If you take a course from first year, choose 2025-2026 version
- NOTE! Important information regarding Tuition Fees and scholarship for MSE students in the end



## Practical Training, 15 + 15 cr

#### Can include:

- Engineering tasks
- Sustainability-related work
- Managerial or economic work in engineering contexts

### Practical training 1 - Introductory Work Experience (15 ects)

- Will give a basic orientation into working life.
- Good if the internship is at a company that is relevant for the field (even if tasks e.g. in customer service), but this is not necessary.

### Practical Training 2 - Professional Work Practice (15 cr)

- Must always include profession-specific tasks; work related to your MSE studies.
- E.g. Engineering work in any industry and Sustainability-focused roles



## **Practical Training 15cr + 15cr**

#### Where?

- In Finland
- Abroad

#### When?

- During the 4<sup>th</sup> year (in the study plan)
- Often during summer after 2<sup>nd</sup> /3<sup>rd</sup> year

#### **How long?**

- Full-time work; 10 weeks
- Part time work; 400h

- You are responsible for finding your own internship position!
- Contact Rizwan if you are unsure what can be approved as practical training.
- Check more details at <a href="Start">Start</a>



## Practical Training 15 cr + 15cr

- Enroll to Practical training 1 and 2 in SISU
  - >access to documents and instructions in itsLearning
- If you are <u>paid</u> for your work during your internship;
  - you are in a regular employment relationship
  - > a formal practical training contract is not needed
- If you do not have a salary during your internship;
  - you should have a **practical training contract** (itsLearning) signed by the employer, you and your degree program director, before you start the internship.
- After the practical part is completed;
  - > hand in a report & work certificate



## How to Find an Internship Position?

- Arcada Job Portal (online career services for students)
  - Create a profile, upload your CV, find jobs, take part in (online) events, follow companies, get updates to your email and more.
- Career center Arabia
  - Career counselling; help with searching for a job, applying for jobs, CV, LinkedIn & preparations before job interviews.
  - · Workshops & events.
- <u>TE-tjänster</u> (Swe/Fi)
- Insinööriliiton Työpaikkatori (Fi)
- <u>Duunitori kesätyöt</u> (Fi)
- Finland Jobs
- <u>Laura</u>

Read Arcada mail!

Be active!

Participate in events!



## **Networking & Other Events**

#### AT ARCADA:

- My Future work
  - Recruiting and networking event in January!
- KC Arabia
  - CV clinics
  - LinkedIn workshops
  - Summer job workshops
  - Photos for CV

#### **OUTSIDE OF ARCADA:**

- Contact Forum
- Job Teaser: How to master your job interview?
- Events by <u>Luckan</u> and <u>International House</u> <u>Helsinki</u>
- TE office; Helsinki employment services
- <u>LinkedIn työnhaussa: Parhaat käytännöt</u> <u>ja vinkit</u> (Webinair in Finnish by Talent Center)
- Espoo Talent Match



## Examples of Companies Where Students Have Been on Practical Training

- ABB Oy
- Aidon OY
- Ainak Oy
- AKA Corporation Oy
- Borealis Polymers Oy
- Creators Oy
- Fennovoima Oy
- Finnvacum
- GA Telesis
- Muoviyhdistys ry
- Geberit Productions OY
- INKOO Shipping Oy
- Tiivistekeskus
- Plastoco

- Ensto
- NRG Finland Oy
- Nordex Energy GmbH
- Nord pipe composite engineering
- Saint-Gobain Finland Oy
- SEW EuroDrive
- Swappie Oy
- Termonova
- UPM
- Woodio Oy
- Wärtsilä
- Plastek
- Walki



## **Exchange Studies?**

- Why? Enriching experience on both academic and personal level
- Exchange studies are to be integrated in your degree and should not delay your graduation.
- Development studies / courses that replace obligatory courses at Arcada
- Find more information on Start:
  - https://start.arcada.fi/en/mystudies/exchange-studies-andpractical-training-abroad/exchangestudies

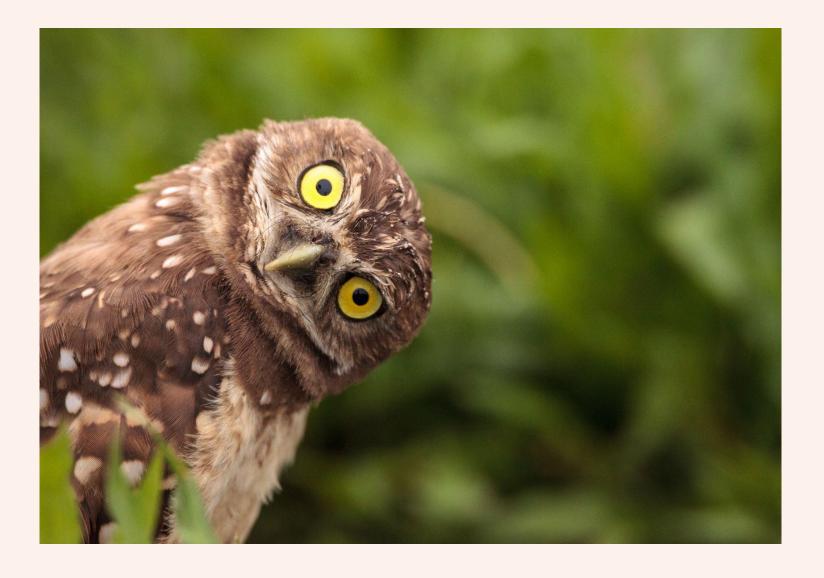


## To Do

- Check that everything ok in SISU! (credits and personal information)
- Register for the academic year 25-26 (15.4–10.9)
- Tuition fee paying students:
  - Apply for the scholarship!
  - Pay the tuition fee!
- Course enrollment (11.8-27.8)



Questions?





# TACK! THANK YOU! KIITOS!

Have a nice summer!



arcada.fi







## Scholarships - recap

- Deadline to apply is 16 June 2025.
   Late applications will not be accepted except for in very exceptional cases such as exchange studies or transfer of credits from other universities. Please contact <a href="mailto:studentaffairs@arcada.fi">studentaffairs@arcada.fi</a> early on and discuss these cases with us so we are aware.
- Do not apply before you fulfill the criteria. Processing time is around 2 weeks (longer during summer).



## Scholarship requirements & tuition fee payment

- The student has completed an average of 60 ECTS per academic year during their studies at Arcada. The scholarship amount depends on your grade average.
- Tuition fees are paid only through Flywire.
  - The deadline for the fall semester's tuition fee is 15 August
  - If paid in 2 installments deadline for spring semester's tuition fee is 15 December
  - Arcada will register you as attending once the payment has been received

## Q/A hybrid session regarding scholarships

19 May 13.00 – 14.00

- D4109
- Through Teams: Join the meeting now
- You are welcome to come and meet with Student Affairs and ask questions about eligibility and the process





## Helpful links regarding scholarships and tuition fees

- Find step-by-step instructions for Flywire payments here: <a href="https://start.arcada.fi/en/my-studies/tuition-fees/tuition-fee-payment/tuition-fee-payment-step-by-step-instructions">https://start.arcada.fi/en/my-studies/tuition-fees/tuition-fee-payment-step-by-step-instructions</a>
- Scholarship criteria: <a href="https://start.arcada.fi/en/my-studies/tuition-fees/scholarships/scholarship-criteria#scholarship-criteria-if-you-were-admitted-in-2024">https://start.arcada.fi/en/my-studies/tuition-fees/scholarships/scholarship-criteria#scholarship-criteria-if-you-were-admitted-in-2024</a>
- How to apply for a scholarship: <a href="https://start.arcada.fi/en/my-studies/tuition-fees/scholarships#scholarship-application">https://start.arcada.fi/en/my-studies/tuition-fees/scholarships#scholarship-application</a>