Универзитет „Св. Кирил и Методиј“ во Скопје
Машински факултет - Скопје

Одбрани проекти по предметот:

ПРОИЗВОДИ ОД ПЛАСТИКА

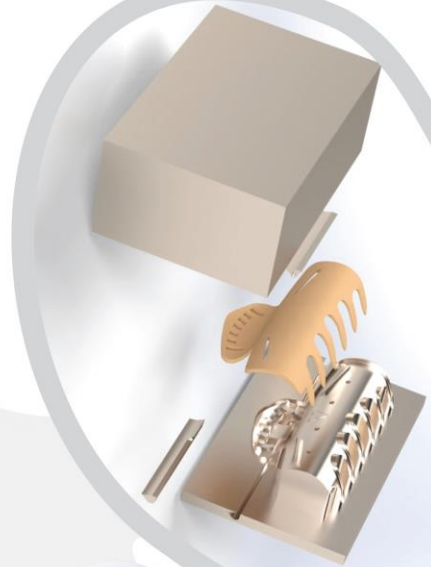
Учебна година: 2024-2025

Предметен наставник: Проф. д-р Иле Мирчески
Соработник: Асс. м-р Благоја Несторовски

Проект бр. 1:
Изработка на калапно гнездо

CORE & CAVITY DESIGN

HAIRCLIP & POURING CUP

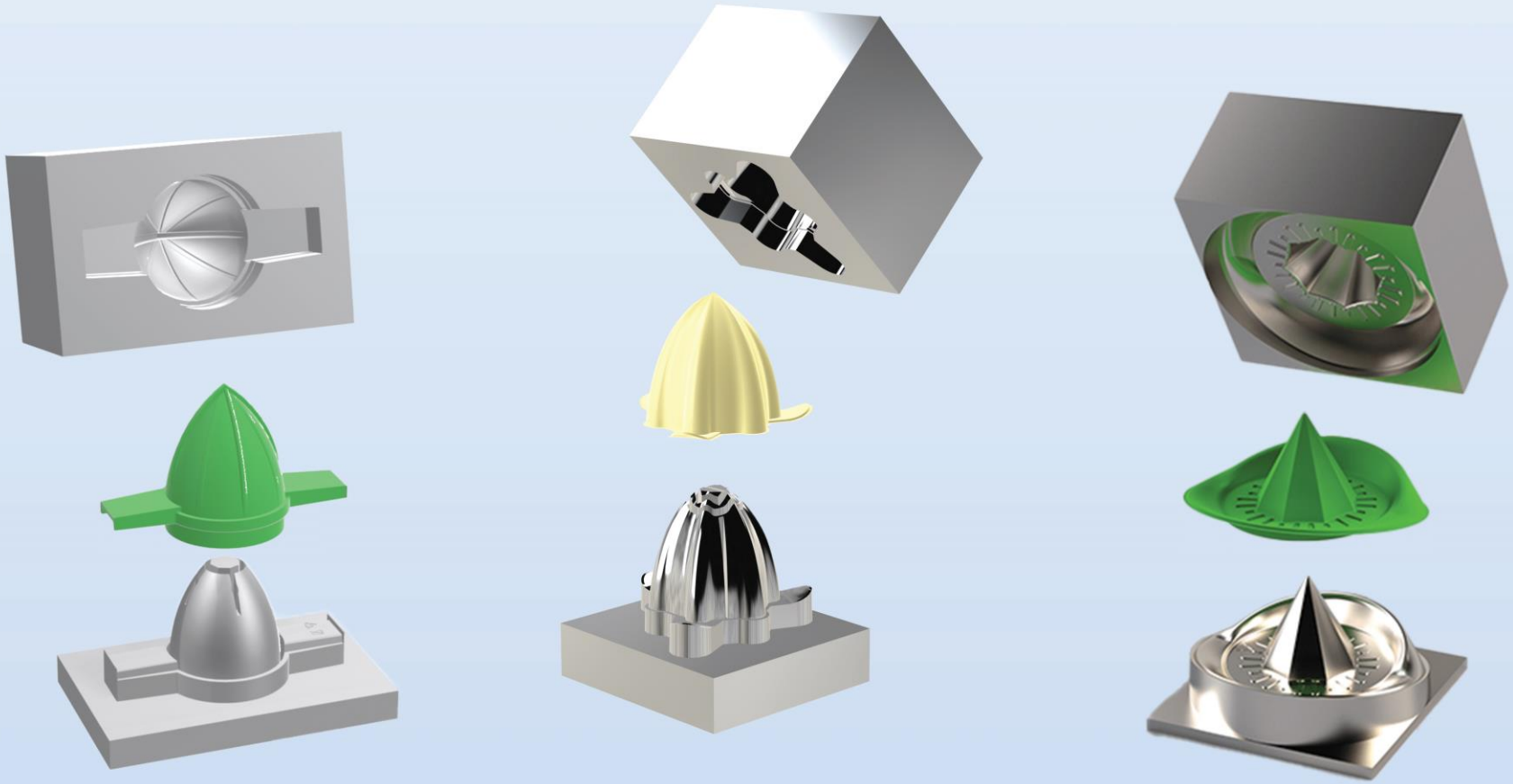


Ss. Cyril and Methodius University in Skopje
Faculty of Mechanical Engineering
November, 2024

Students: Teodora Gjeorgjievska & Andrea Noveva
Leaders: Ph.D. Ile Mircheski & M.A. Blagoja Nestorovski
Course: Design with plastics

CORE AND CAVITY DESIGN

LEMON SQUEEZERS



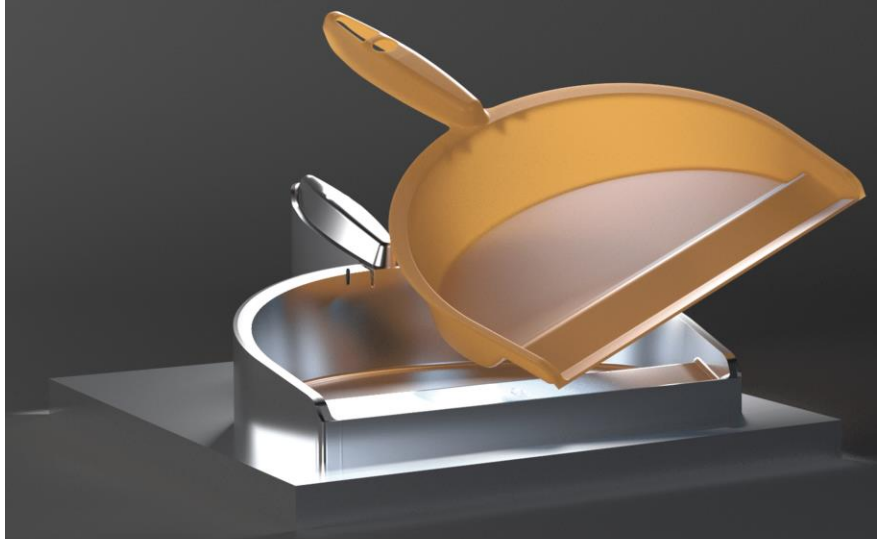
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Students: Ivana Jovanovska, Sara Kovacheska, Viki Efremova
Course: Industriski dizajn
Leader: Ile Mircheski, PhD, Blagoja Nestorovski
School Year: 2024/2025

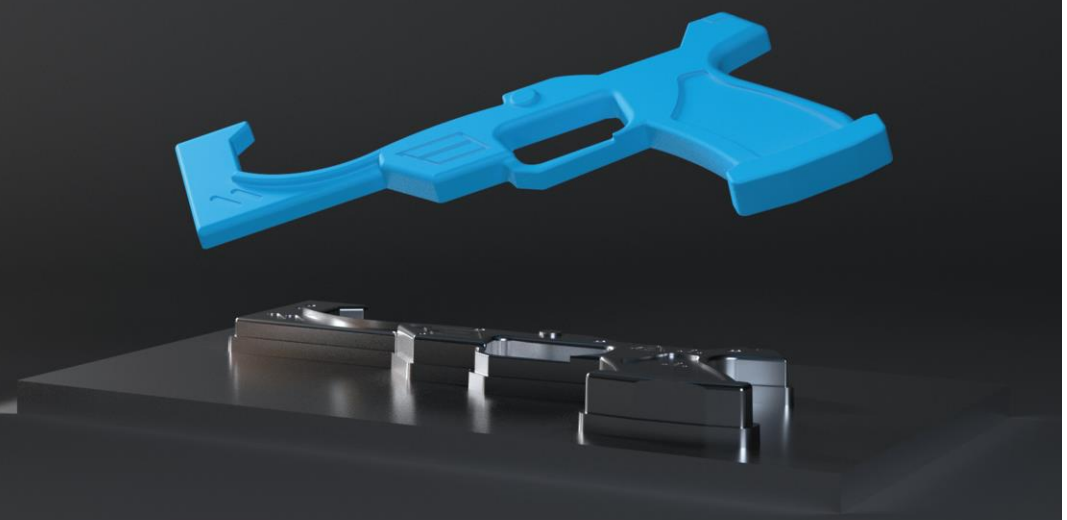
CORE & CAVITY MOLD DESIGN

Plastic Injection Molding

Dustpan



Kids Toy
Water Gun



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Students: Gorjan Stojkovski 3211
Martina Dimovska 3221
Course: Design with plastics
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

CORE AND CAVITY DESIGN

MOLD DESIGN

TOY PART

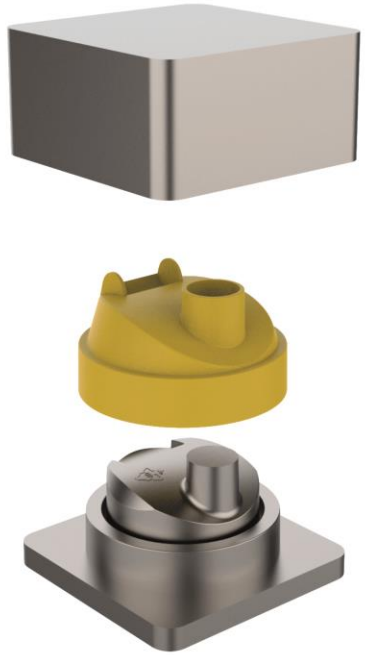
CALIPER STORAGE CASE

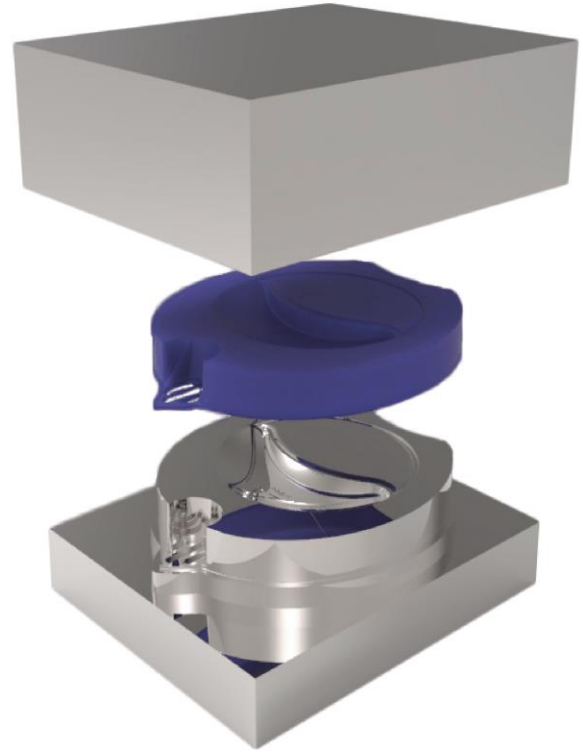
XBOX CONTROLLER

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Anastasija Zinzovska, Petar Palevski, Marko Ristovski
Course: Plastic Products
Leader: Prof. Ile Mircheski, PhD
Ass. :Blagoja Nestorovski, MS
School Year: 2024/2025

CORE AND CAVITY DESIGN
PLASTIC LID DESIGNS





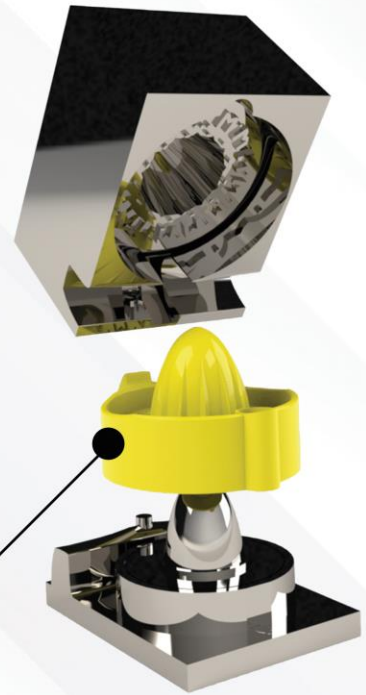
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Anamarija Shoshkoska, Ena Kondovska, Bojan Lazoroski
Course: Design with plastics
Leader: Prof. Ile Mircheski , PhD
School Year: 2024/2025

CORE & CAVITY DESIGN

REAR COVER OF REMOTE CONTROLLER

Nikolaj Todoroski 3015



3034 Ana Ivanovska

HANDHELD SQUEEZER

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Ana Ivanovska 3034, Nikolaj Todoroski 3015
Course: Proizvodi od plastika
Leader: Prof. Ile Mirceski, PhD
School Year: 2024/2025

CORE AND CAVITY MOLD DESING

Plastic Injection Molding

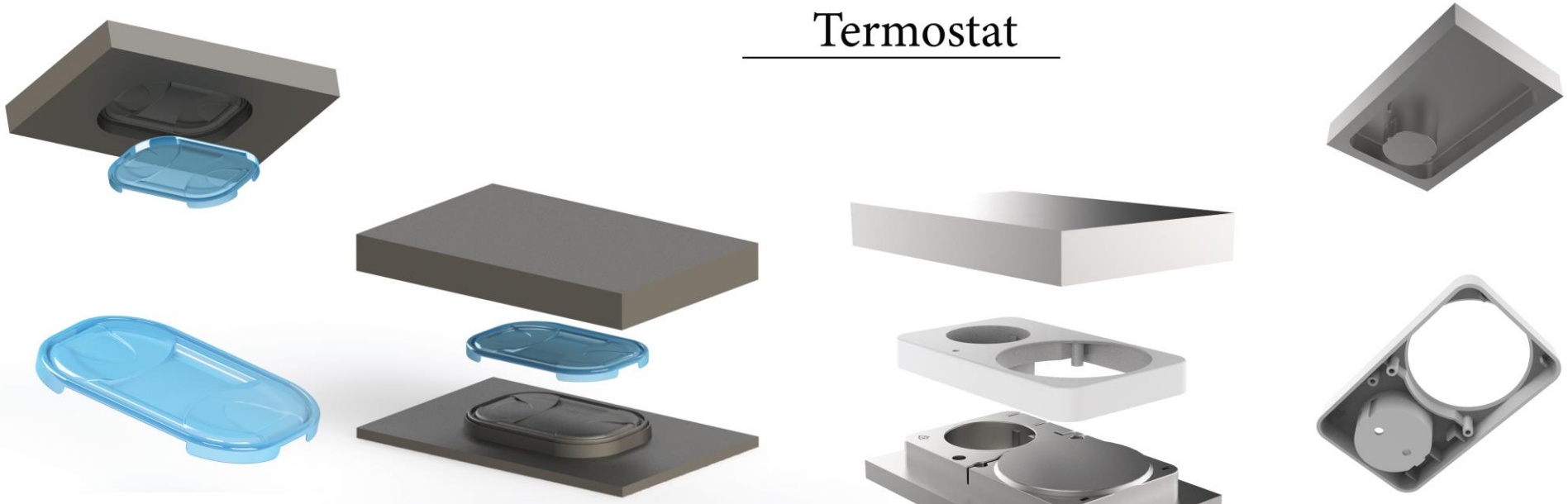
Back Part of a Night Lamp

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Bojan Kralevski 3198
Course: Plastic Products
Leader: Prof. Dr. Ile Mirchevski
School Year: 2024/2025

CORE AND CAVITY MOLD DESIGN

Termostat



Container Lid

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Dario Cackov 3219
Marija Dzaveroska 3230
Course: Plastic Products Desing
Leader: Prof. Ile Mircheski
School Year: 2024/2025

CORE & CAVITY DESIGN

Plastic Injection Modeling

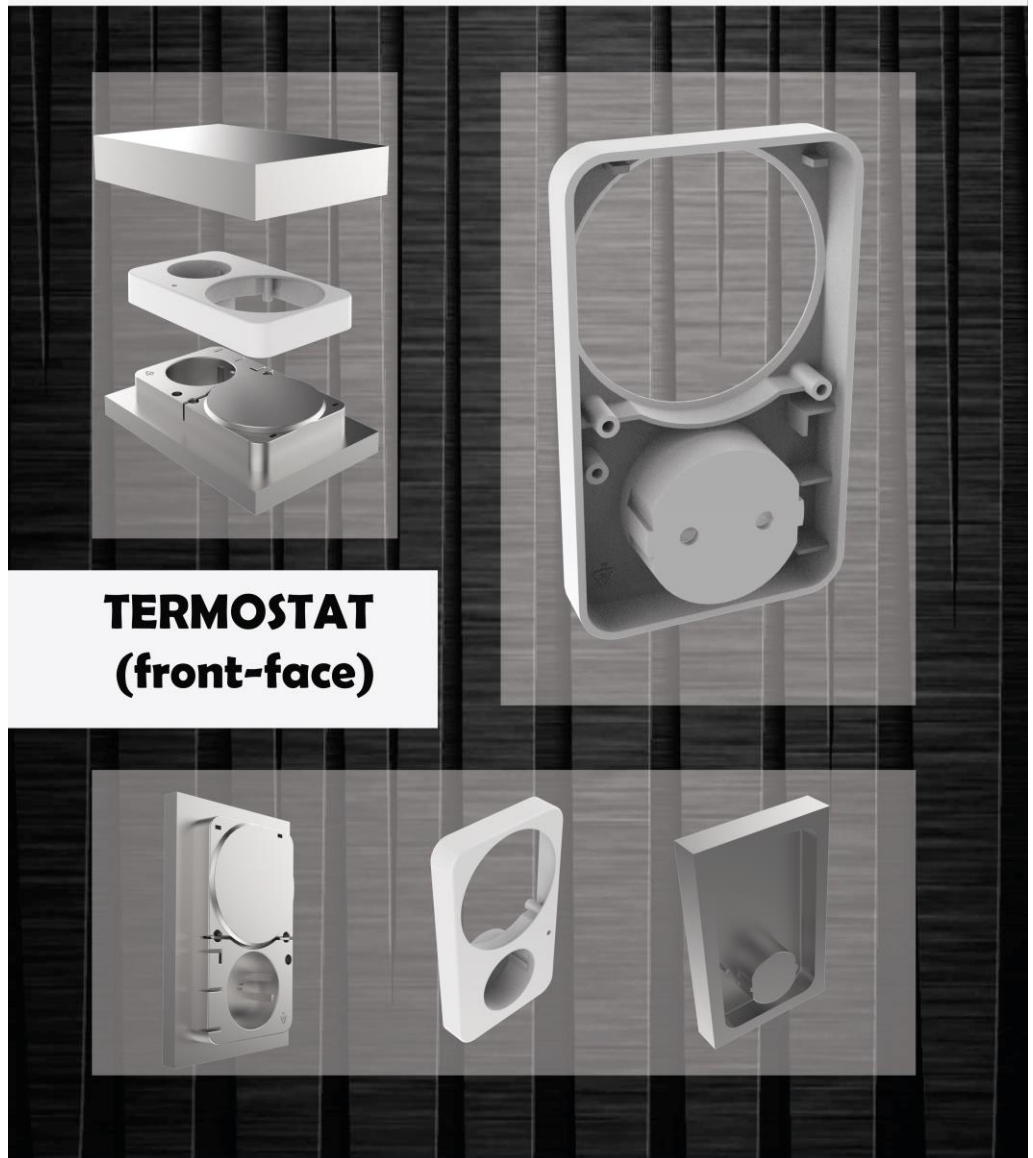
Spray cap

Cup lid

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Matea Anishikj 3184 and Jovana Spaskovska 3209
Course: Design with Plastics
Leader: Prof. Dr. Ile Mircheski
School Year: 2024/2025

CORE AND CAVITY MOLD DESING

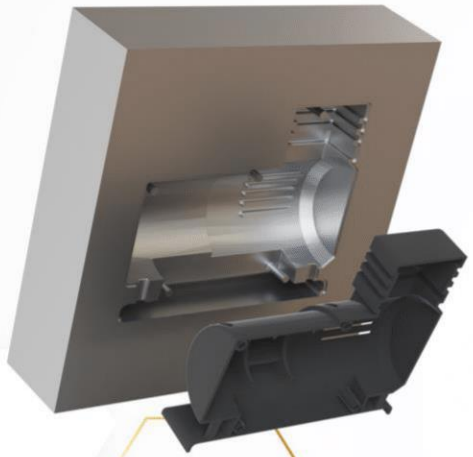


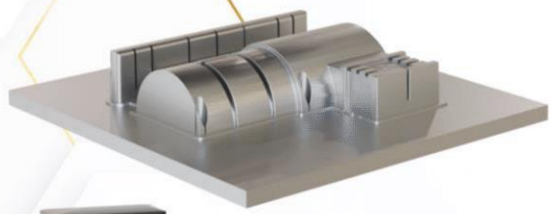
TERMOSTAT
(front-face)

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Bojan Kralevski 3198
Course: Plastic Products
Leader: Prof. Dr. Ile Mirchevski
School Year: 2024/2025

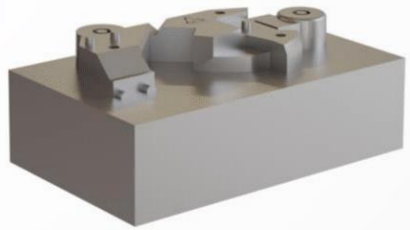
CORE AND CAVITY MOLD DESIGN





AIR COMPRESSOR CASING

MOTORCYCLE TOY

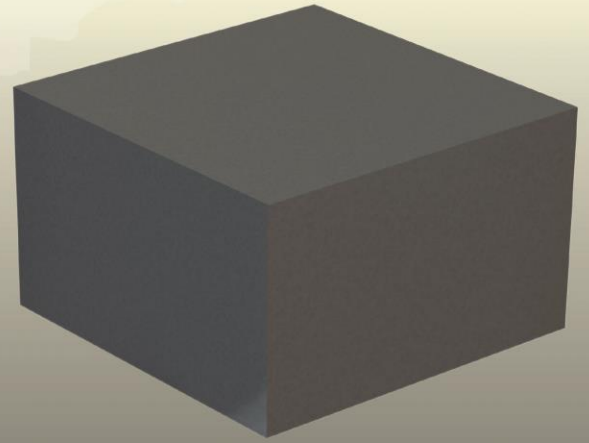


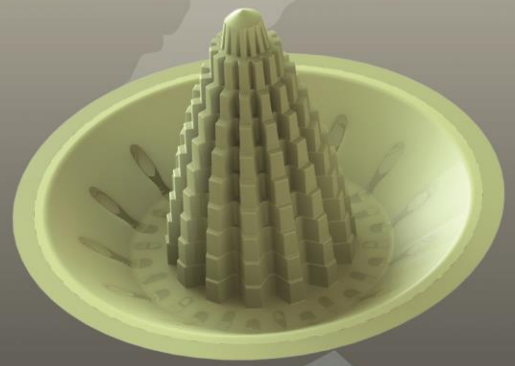
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

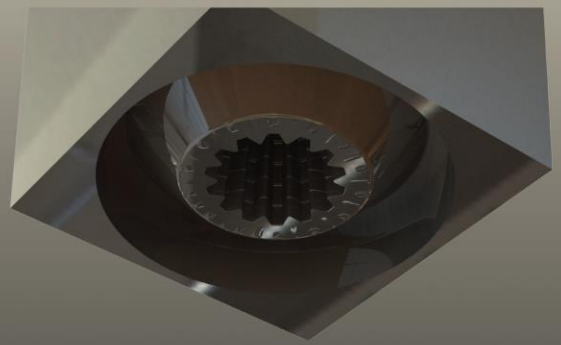
Students: Filip Veselinovikj | Gjorgji Pavleski
Course: Design with Plastics
Leader: Prof. Ile Mircheski PhD
School Year: 2024/2025

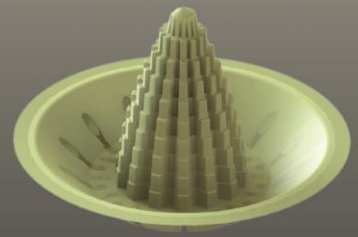
CORE AND CAVITY MOLD DESIGN

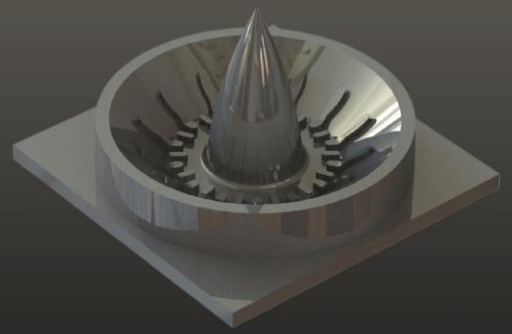
Lemon squeezer











"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Iva Jovancheva
Course: Industrial Design
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

CORE AND CAVITY MOLD DESIGN

Plastic Injection Molding

Sand Rake -
Toy for kids

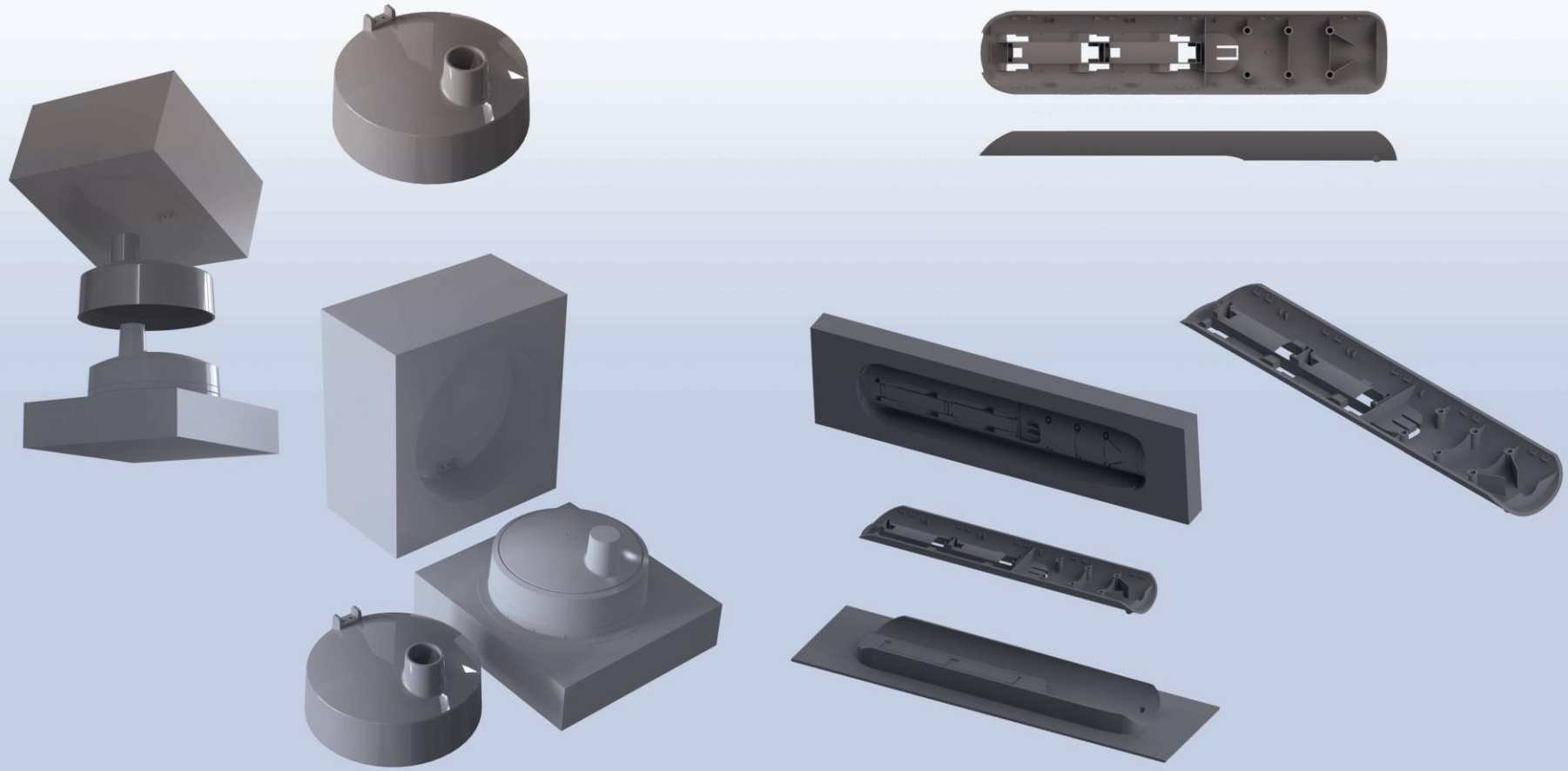
Sand Shovel -
Toy for kids

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Martina Stoikova 3210 and Iva Georgievska 3186
Course: Plastic product design
Leader: Prof. D-r Ile Mircheski
Assistant: M-r Blagoja Nestorovski
School Year: 2024/2025

CORE AND CAVITY MOLD DESIGN

BOTTLE CAP & TV REMOTE BOTTOM PART

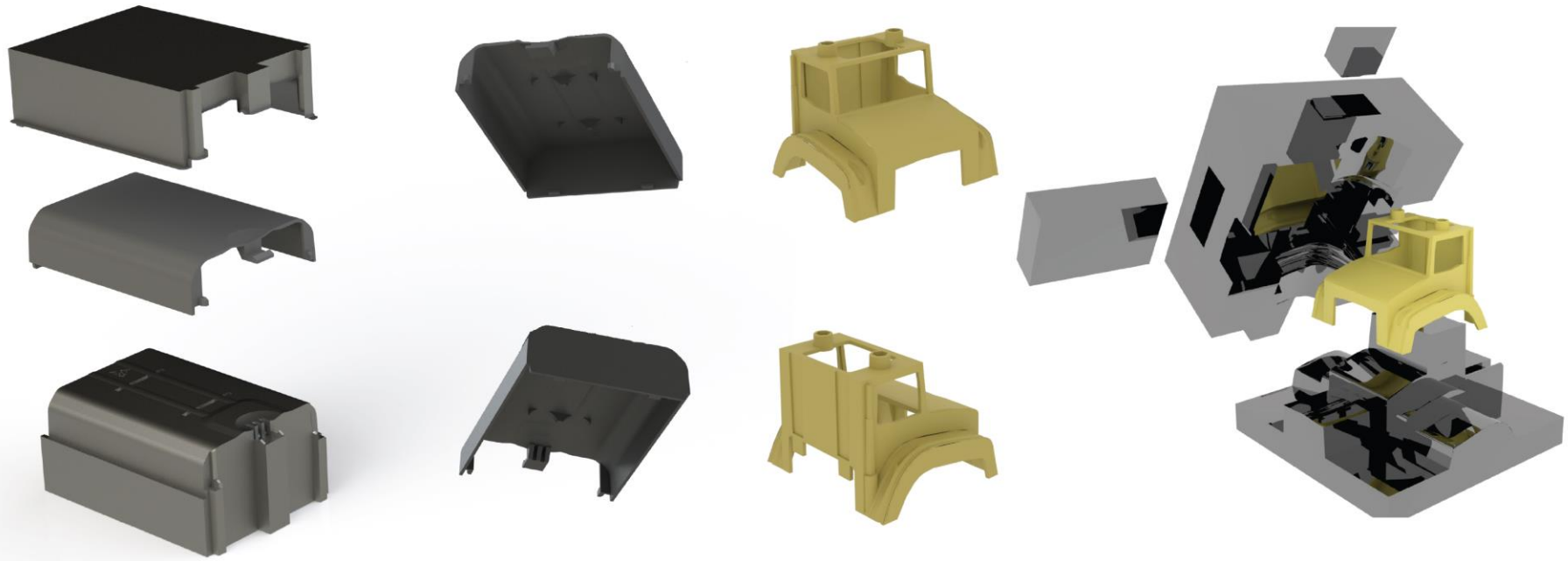


"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Students: Petar Kitanovski 3021, Dimitar Dameski 3024
Course: Plastic Product Design
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

CORE AND CAVITY MOLD DESIGN

Toy truck part and TV remote cap



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

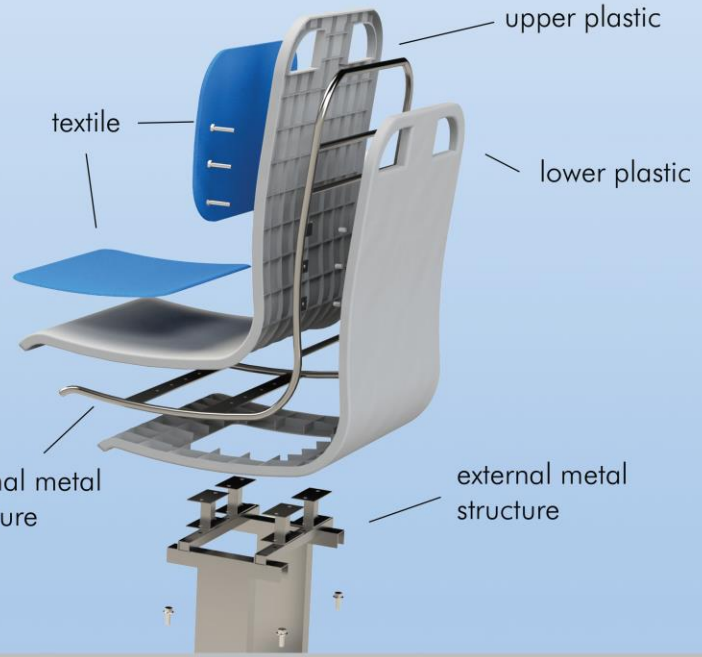
Student: Antonio Kostadinovski 2994, Kiril Spiroski 2991
Course: Plastic Product Design
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

Проект бр. 2:
Дизајн на седиште од пластика и метална конструкција за градски автобус

BUS SEAT DESIGN

Comfortable and Durable Bus Seat Design for Public Transport

Efficient and innovative bus seat design featuring a metal frame, securely attached to the bus structure for maximum stability. The seat incorporates ergonomic plastic components, designed to provide optimal comfort and support for passengers. This design balances strength, functionality, and comfort, making it an ideal choice for high-traffic public transportation environments.



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Anastasija Zinzovska 3190
Course: Industrial Design
Leader: Ile Mircheski , PhD
Assistant: Blagoja Nestorovski
School Year: 2024/25

PLASTIC SEAT DESIGN FOR PUBLIC BUSES

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Gorjan Stojkovski 3211
Course: Design with plastics
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

BUS SEAT DESIGN

Ergonomically Designed, Structurally Reinforced Bus Seat

The seat is composed of two plastic parts reinforced with structural ribs and supported by an internal metal frame. For enhanced comfort, a textile layer is added to the design, while its ergonomic shape and dimensions are carefully tailored using anthropometric data to accommodate a diverse range of passengers.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Sara Kovacheska 3195
Course: Design with Plastics
Leaders: prof. Ile Mircheski, PhD & ass. Blagoja Nestorovski, MA
School Year: 2024/2025

Bus seat design

Ergonomic Elegance

Discover the next level of passenger comfort with our innovatively designed bus seat.

Featuring smooth, organic shapes tailored for ergonomic support, it ensures a comfortable experience for everyone. Built for durability, the interior reveals a meticulously engineered structure with ribs and a robust metal construction, blending strength with style for modern transit solutions.

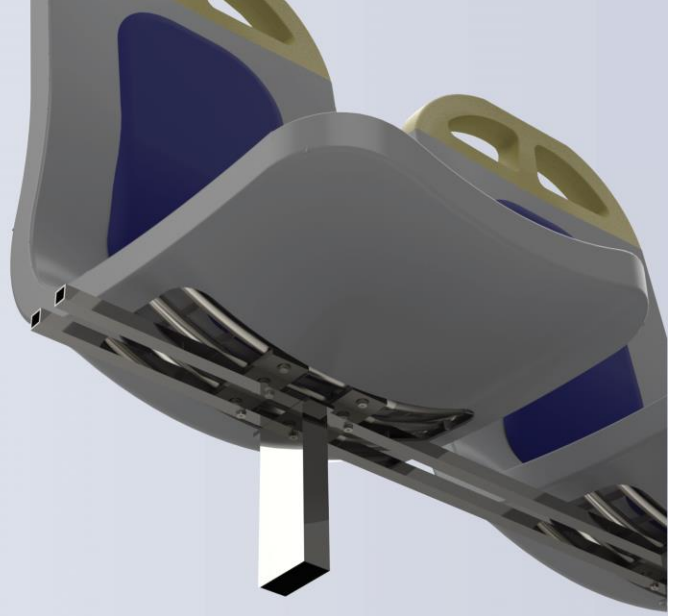
SS. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Andrea Noveva
Course: Industrial Design
Leader: Prof. Ile Mirceski, PhD
Ass. Blagoja Nestoroski
2024/2025

BUS SEAT

DESIGNED FOR COMFORT

This ergonomic bus seat was meticulously designed to provide optimal body support and ensure maximum comfort during travel. Its core features a durable metal construction that forms the backbone of the seat, offering strength and stability. The seat's outer shell, crafted from molded plastic is designed to fit the body's natural contours. Integrated within the plastic parts is a supportive framework, enhancing the overall strength and resilience of the seat. The innovative design incorporates seamless plastic-to-metal connections, ensuring durability and a sleek appearance. Together, these elements create a comfortable, ergonomic seating solution tailored for modern bus passengers.



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Ivana Jovanovska 3192
Course: Industrial design
Leader: Prof. Ile Mirchevski, PhD
School Year: 2024/2025

City Bus Seat

Ergonomically-friendly style with comfort for every passenger.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Ana ivanovska 3034
Course: Proizvodi od plastika
Leader: Prof. Ile Mirceski, PhD
School Year: 2024/2025

PUBLIC BUS SEAT

Where comfort meets durability

Experience the perfect blend of style and practicality. The public bus seat is crafted to enhance passanger comfort while ensurig long- lasting performance.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Antonio Kostadinovski 2994
Course: Plastic Product Design
Leader: Prof.Ile Mircheski, PhD
School Year: 2024/2025

PLASTIC BUS SEAT

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Bojan Kralevski 3198
Course: Plastic Products
Leader: Prof. Dr. Ile Mirchevski
School Year: 2024/2025

PLASTIC BUS SEAT

Our design prioritizes passenger comfort, featuring a supportive backrest and seating profile tailored to the natural curves of the body .

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Dario Cackov 3219
Course: Plastic Products
Leader: Prof. Dr. Ile Mirchevski
School Year: 2024/2025

Design of a Modern Bus Seat

Redefining passenger experience

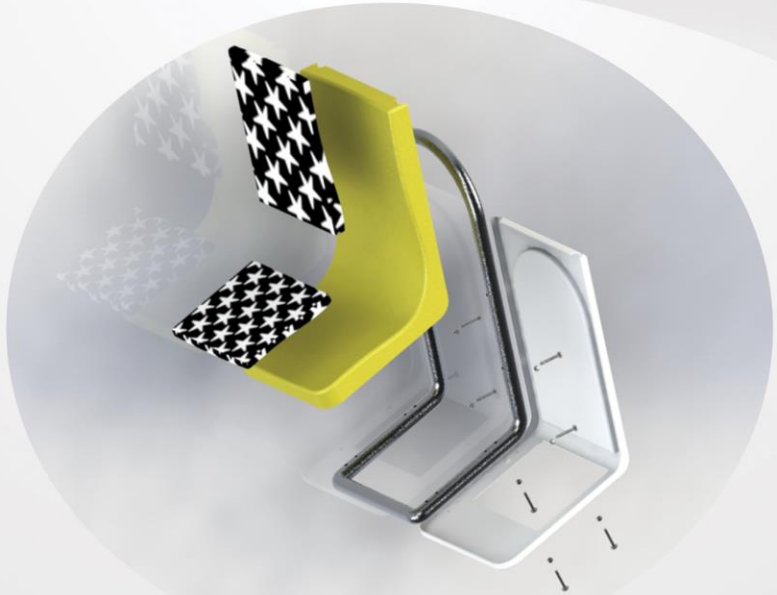
A modern, ergonomic bus seat designed for comfort and durability. Featuring a sturdy metal base, cotoured plastic frame, and cushioned padding.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

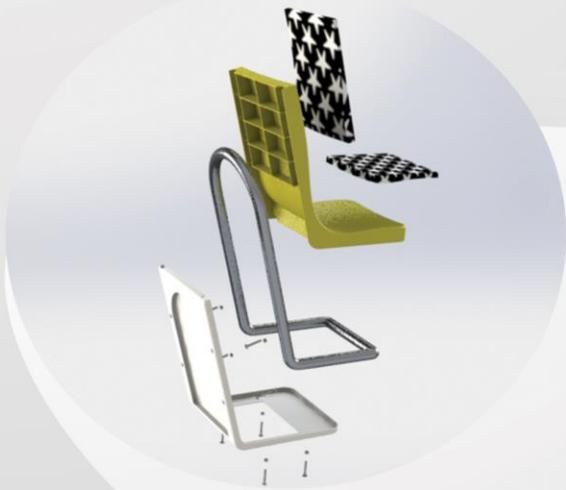
Ena Kondovska 3196
Products of Plastics
Mentor: Prof. Dr. Ile Mircheski
School Year: 2024/2025

BUS SEAT

Design of plastic bus seat



Exploded View



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Gjorgji Pavleski
Course: design with plastic
Leader: Prof. Ile Mircevski, PhD
School Year: 2024/25

BUS SEAT FOR PUBLIC TRANSPORT

Structural Integrity Meets Design

Combining innovative design with construction, this bus seat offers the perfect blend of comfort and security. Enjoy a relaxed and safe journey, supported by a structure built to last.

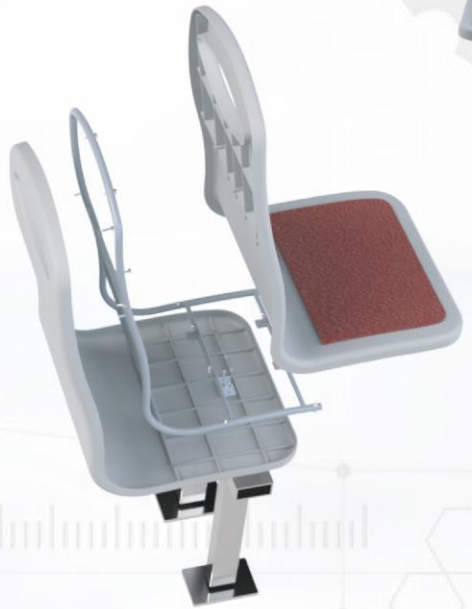
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Iva Georgievska 3186
Course: Design with plastic
Leader: Prof. Ile Mircheski
Ass. Blagoja Nestorovski
School Year: 2024/2025

BUS SEAT FOR PUBLIC TRANSPORT

Public bus seat design with metal construction

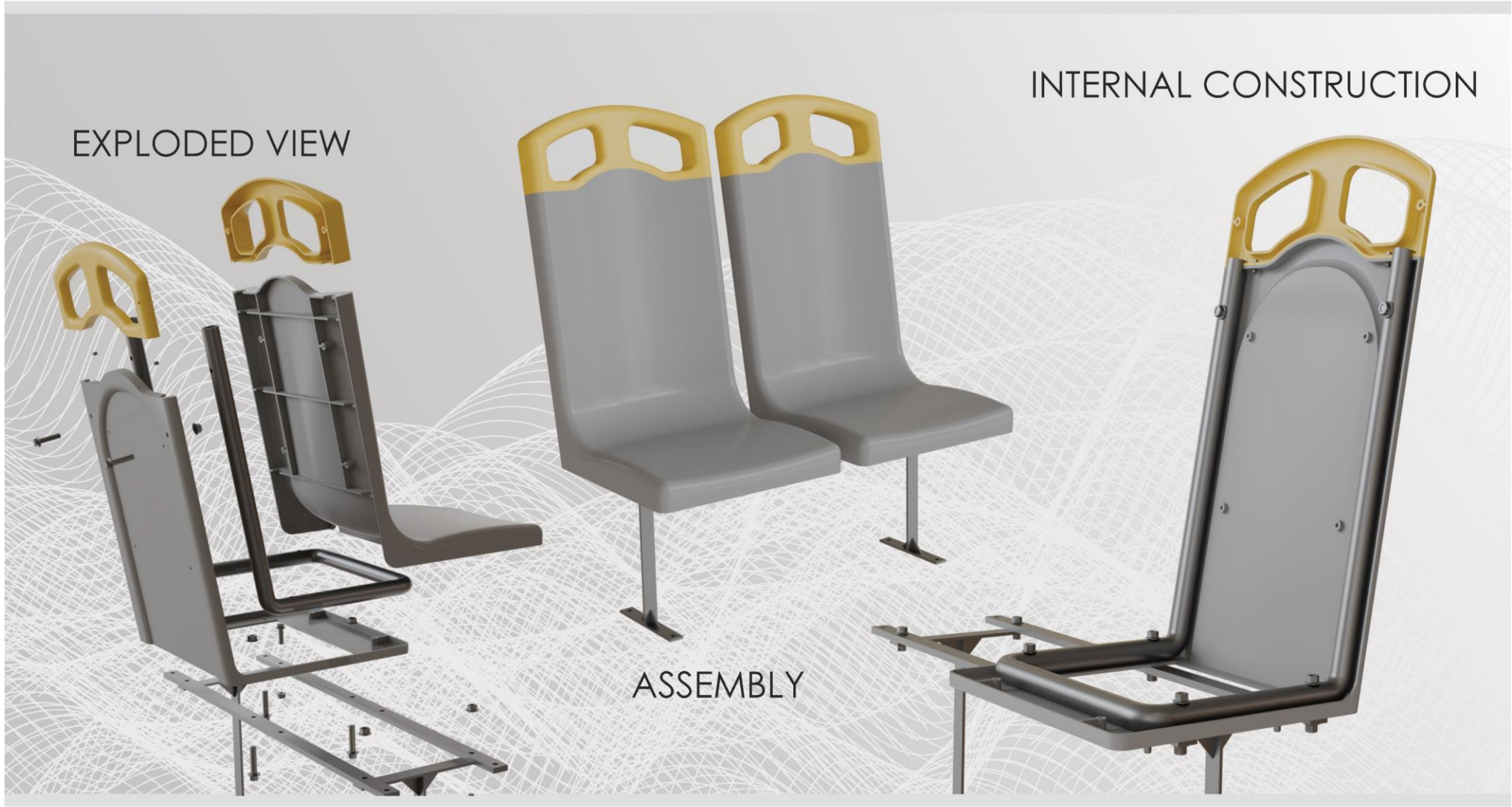
Designed with a focus on durability and ergonomics, this bus seat features a strong metal framework and carefully secured joints using high-quality bolts and nuts. The innovative design ensures maximum comfort while maintaining structural integrity for a safe and relaxing journey.



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Jovana Spaskovska 3209
Course: Design with Plastics
Leader: Prof. Dr. Ile Mircheski
School Year: 2024/2025

BUS SEAT DESIGN



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Filip Veselinovikj - 3185
Course: Design with Plastics
Leader: Prof. Ile Mircheski PhD
School Year: 2024/2025

BUS SEAT FOR PUBLIC TRANSPORT

Engineered for Comfort

This bus seat blends a strong metal frame with a simple, comfortable design, perfect for busy urban transport while ensuring long-lasting use.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Matea Anishikj 3184
Course: Design with plastics
Leader: Prof. Ile Mircheski, PhD
Assistant: Blagoja Nestorovski
School Year: 2024/2025

PUBLIC BUS SEAT AND STRUCTURE

Designed and constructed with comfort and easy installation in mind

Both plastic shells are held together by a metal construction, while each part has seemless bolt connections. Made to be long lasting. Padding is crafted from high-density foam for ergonomic support, while seat covers are often made from fabric chosen for its durability and ease of cleaning.

Made from ABS Plastic / Connections: Boltet joints, snap-fit, adhesives and riveting

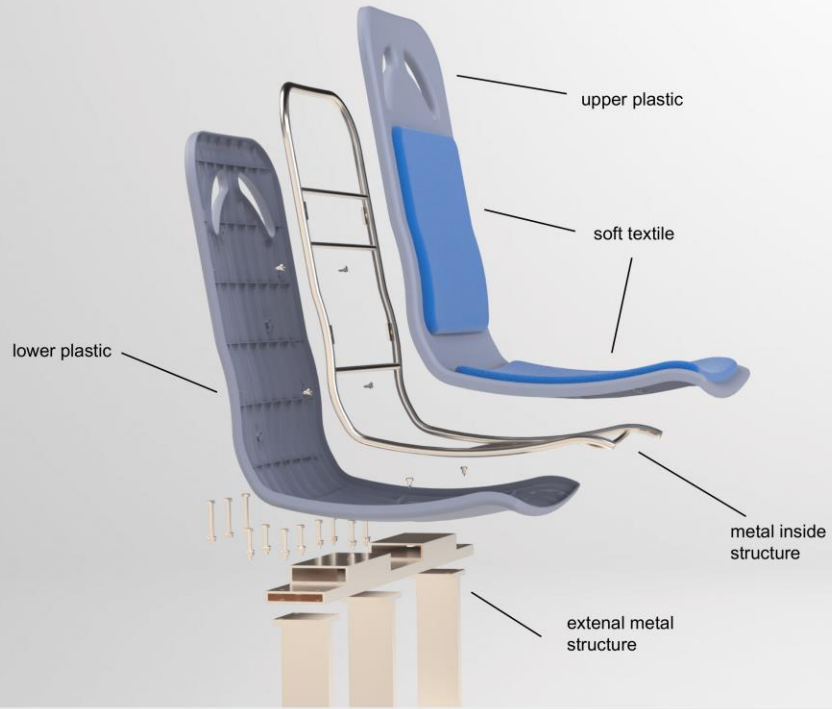
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Marko Ristovski
Course: Plastic Products
Leader: Prof. Ile Mircheski
Ass. :Blagoja Nestorovski
School Year:2024/2025

BUS SEAT DESIGH

REDEFINING COMFORT AND INNOVATION FOR EVERY JOURNEY

Bus chair designed with two molded plastic sections, reinforced by internal ribs and supported by a sturdy metal frame for lasting durability. A soft textile layer adds comfort, while its carefully contoured ergonomic design, developed using anthropometric data, ensures a comfortable fit for passengers of various sizes.

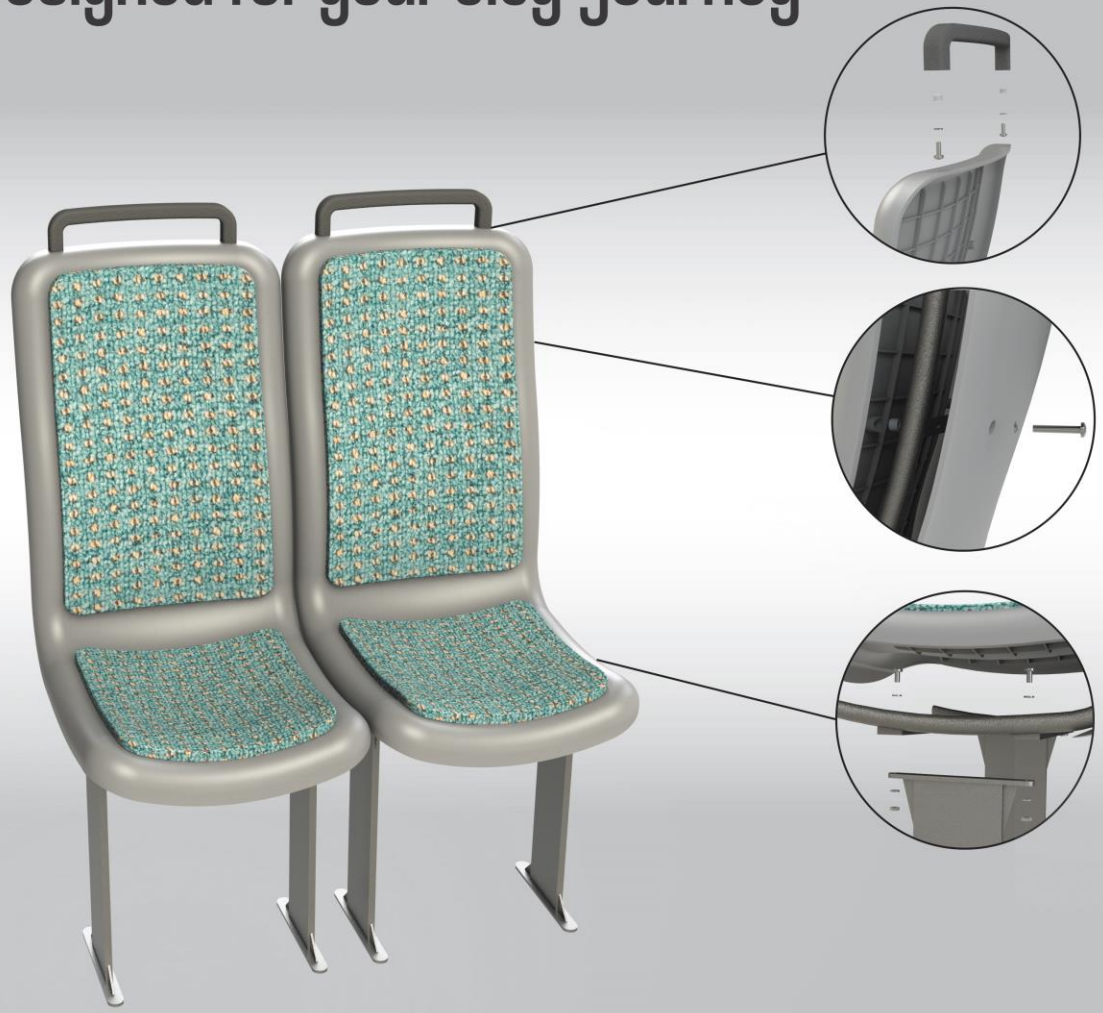


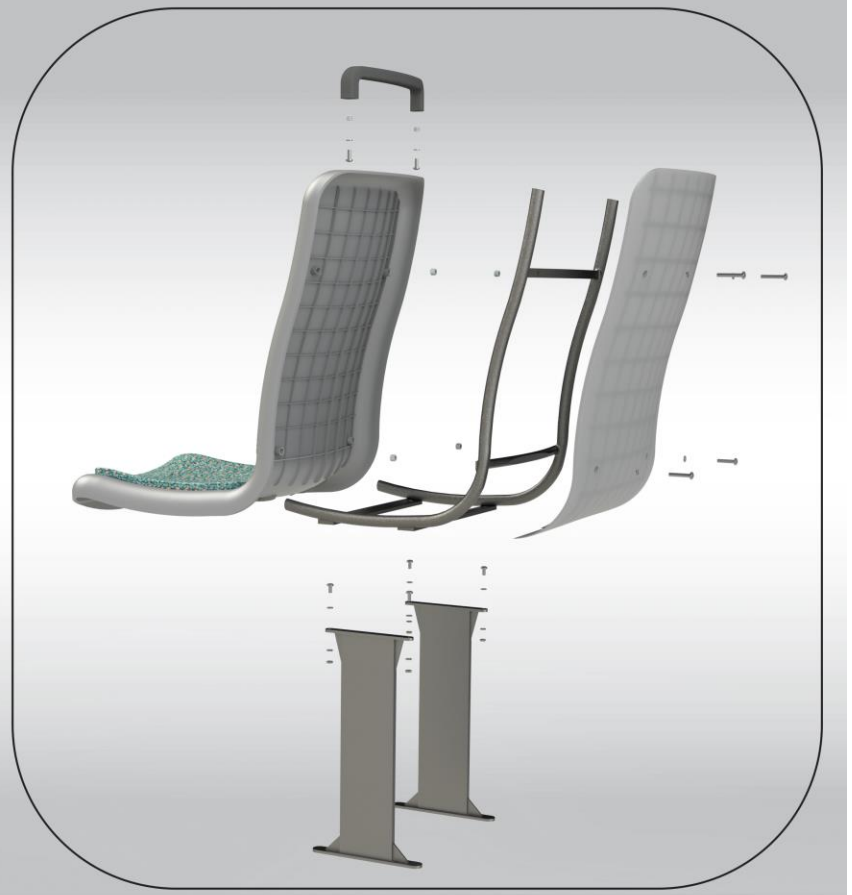
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Петар Палевски
Course: Производи од пластика
Leader: Prof. Иле Мирчески, PhD
School Year: 2024/2025

City Bus Seat Design

Designed for your city journey





"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Iva Jovancheva
Course: Plastic products
Leader: Prof. Ile Mirceski PhD
School Year: 2024/2025

PLASTIC BUS SEAT

SUPPORTED BY METAL BEAMS

Our ergonomicaly designed bus seat provides lumbar support, comfortable cushioning, and proper posture alignment. It features durable materials for long-lasting comfort.

The modern and practical design uses combination of protruding cylinders and screws.

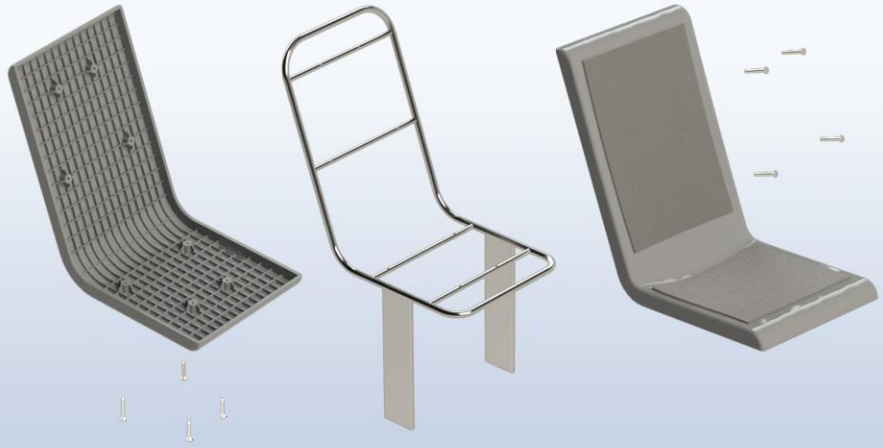
Supported by round metal beams and a central laser-cut plate for maximum durability.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Bojan Lazoroski 3199
Course: Plastic Products
Leader: Prof. Dr. Ile Mircevski
School Year: 2024/2025

PUBLIC TRANSPORT SEAT

Simple, modern seating for efficient public transport use.

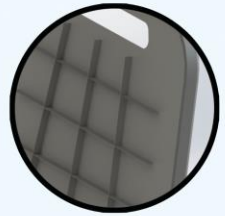


"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Petar Kitanovski 3021
Course:Plastic Product Design
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

BUS SEAT DESIGN

A bus seat designed in SolidWorks focuses on providing comfort and funcionality for public transport. The ergonomic design that follows the body contours ensures passanger comfort. The seat features rounded eges to enchance safety and withstand high-traffic use.
It combines durability and comfort, making it ideal for modern public transportation systems while improving passanger experience.



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student:Marija Dzaveroska
Course: Design with plastics
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

BUS SEAT 3D MODEL

For public transport

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Kiril Spiroski 2991
Course: Plastic Product Design
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

BUS SEAT DESIGN

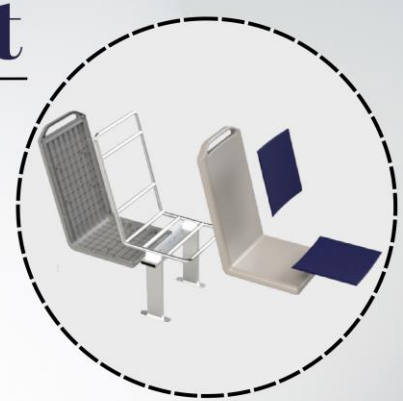
Bus Seat Design Crafted with Surface Modeling Techniques

This bus seat is designed in SolidWorks and crafted using surface modeling techniques, allowing for the creation of smooth, complex curves and an aesthetically pleasing shape. The use of surfaces enables precise control over the seat's ergonomic contours, ensuring passenger comfort and a modern, lightweight design. The structure is reinforced internally using features like ribs and mountain bosses, ensuring strength and durability while minimizing material usage. This approach combines advanced modeling techniques with functionality, making it suitable for public transportation.

"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Teodora Gjeorgjievska 3187
Course: Design with plastics
Leader: Prof. Ile Mirceski, PhD & Ass. Blagoja Nestorovski MA
School Year: 2024/2025

Urban Bus Seat



Durability, ergonomics and style for every ride.

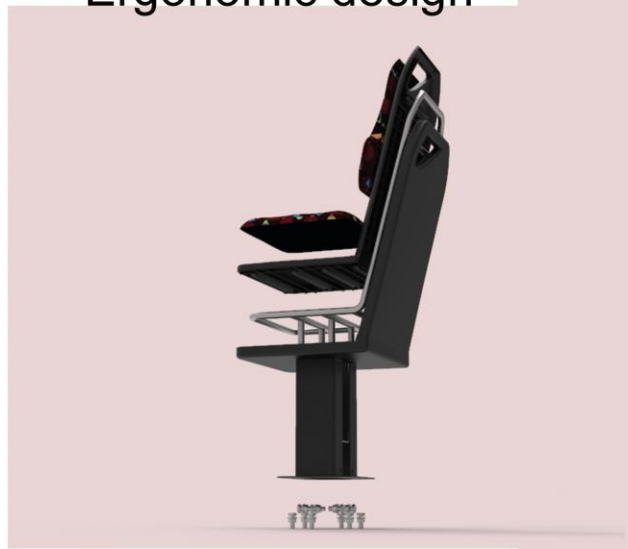
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Nikolaj Todoroski 3015
Course: Plastic Product Design
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/25

Bus chair design

Ergonomic design

This is an ergonomically shaped bus chair with integrated lumbar support. The chair is tilted at a comfortable angle that is suitable for everyday use. The fabric and the dark colour of the plastic hide the dust that accumulates over time on public transport.



"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Anamarija Shoskoska
Course: Design with plastics
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

BUS SEAT DESIGN

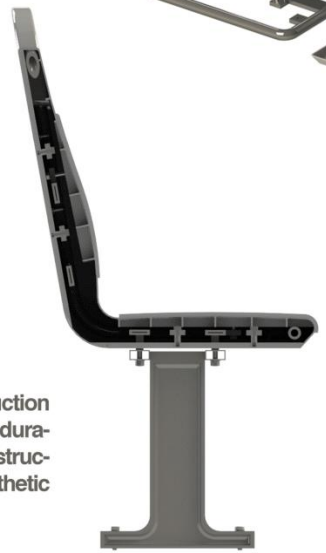
The plastic bus seat design features a sleek, ergonomic shape that provides both comfort and durability for passengers. The molded plastic construction ensures easy maintenance and resistance to wear and tear, while the integrated contours support proper posture during travel, making it an ideal solution for high-traffic public transportation environments.

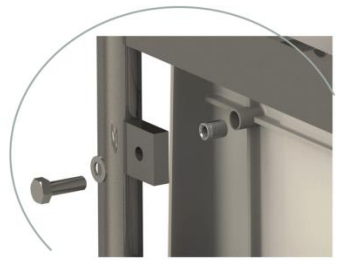
"Ss. Cyril and Methodius" University in Skopje
Faculty of Mechanical Engineering
Industrial Design, Ergonomics and Applications Lab

Student: Martina Dimovska
Course: Plastic products
Leader: Prof. Ile Mircheski, PhD
School Year: 2024/2025

BUS SEAT FOR PUBLIC TRANSPORT

Structural Integrity Meets Design





This bus seat combines robust metal construction with ergonomic design for optimal comfort and durability. Engineered for public transport, it ensures structural integrity, easy maintenance, and a sleek aesthetic suited for urban transit environments.

"Ss. Cyril and Methodius" University in Skopje
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Industrial Design, Ergonomics and Applications Lab

Student: Martina Stoikova 3210
Course: Design with plastic
Leader: Prof. Ile Mircheski
Assistant: ass. Blagoja Nestorovski
School Year: 2024/2025