

CASE STUDY: LASER CUTTING FOR FASHION

SOPHIE MERRINER'S COLLECTION

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THE PROJECT

Sophie Merriner, a fashion student at Salford University approached Laser Cutting Services at the start of 2023 to assist with her final year project towards her Bachelors of Fashion Degree.

Sophie's designs were original and interesting and we were inspired by the enthusiasm for her collection.

Sophie had briefly used laser cutting in the past and found the process to be useful for many reasons. Repetitive shapes can be cut in large volumes, intricate cutting can be easily completed and the laser creates a seal on certain fabrics avoiding fraying.

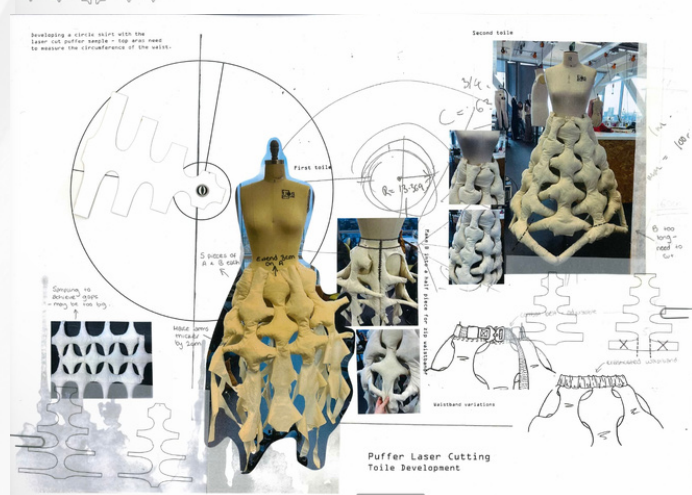
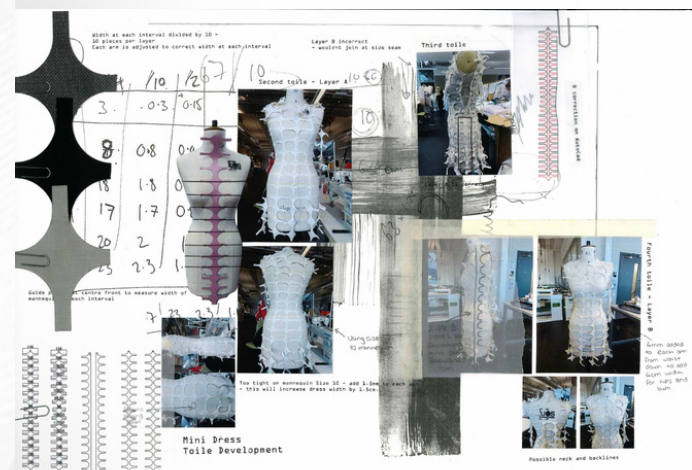
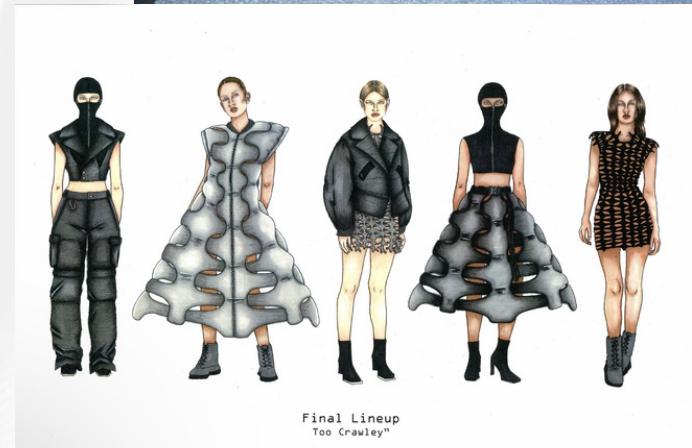
This case study is broken down into 3 sections; Sophie's timeline for creating her collection, the process of production & an interview with Sophie Merriner.

FROM DESIGN TO CATWALK, WHAT DOES A PRODUCTION TIMELINE LOOK LIKE?

- 9th – 16th January: [Exploring initial design ideas.](#)
- January – March: Toiling (testing) and pattern cutting all garments.
- 17th – 20th January: [Fabric sourcing in Paris.](#)
- 31/01: Sampling laser cutting and cutting in card.
- 01/03: [Visit to Laser Cutting Services \(LCS\)](#) to test fabric for laser cutting - provided team with CAD cutting files for this. Meeting with Sarah Gleave, Managing Director of LCS, to discuss materials, ideas and best use of cutting.
- 7-10-/03: Began cutting fabric and making non-laser cut garments
- 14/03: Final files sent to LCS and [deadline set for cutting](#)
- 10 - 14/03: Final mini dress & puffer skirt toile
- 20-23/03 [LCS completed the cutting of 4 files. Please see details of how cutting was completed on LCS process](#)
- 28/03: Production started for final mini dresses
- 21/04: First mini dress complete
- 27/04: Making the laser cut puffer coat
- 1/05: Laser cut puffer skirt completed
- 3/05: Final Critique presentation to tutors on models
- 9/05: Puffer coat completed



18/05: CATWALK Show day



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WHAT IS THE PROCESS WHEN LASER CUTTING FABRIC FOR A FASHION DESIGNER?

- After the initial testing and consultation phase with Sophie we received the cutting files, along with requirements and a deadline for each file.
- All files were supplied with clear instructions detailing the fabric to be used (with a clear swatch), the dimensions of each piece, the quantity required and a layout file.
- The layout was important to Sophie due to the grain-line of the fabric (explained below)
- We then sent Sophie a proof for approval to make sure we were cutting the correct file.

WHAT CHALLENGES CAN ARISE WHEN LASER CUTTING FABRIC?

When we work with fashion companies and designers, they quite often have expensive and/or rare fabric and limited stock. This is why its so important to go through a rigorous proofing process before any cutting takes place.

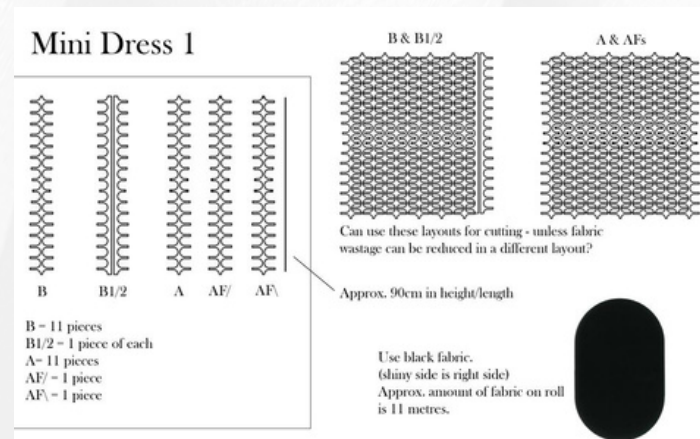
Due to the grain-line in the reflective fabric, all pieces had to be cut in the same orientation to ensure conformity. This did limit the layout of some cutting. Luckily we managed to finish the cutting in plenty of time and with all the fabric supplied!

Once cut, we notified Sophie so she could collect the cut fabric and start the production of her final pieces.

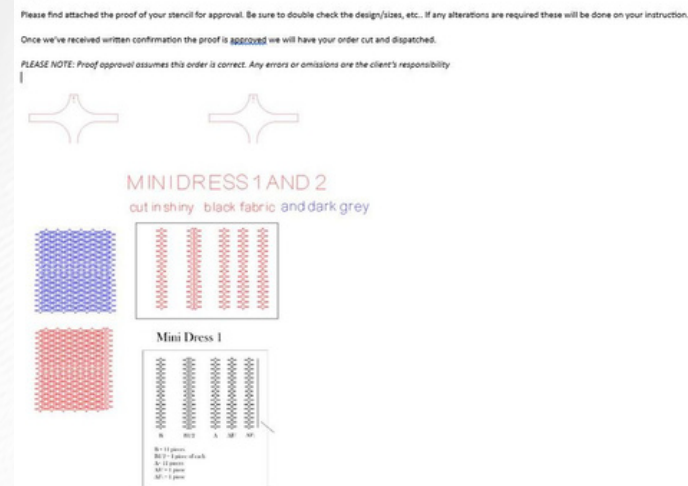


Cutting for Mini Dress 1

Layout files provided by Sophie



Proof approval



Cutting for Mini Dress 2

AT A GLANCE SPECIFICS

- Fabrics used - coated woven fabric & polyamide
- Testing fabrics and meeting with Sophie
- Fabrics confirmed
- Cutting files sent to LCS
- LCS sent proof for approval
- Proof approved and cutting commenced
- Cutting completed and collected for production to commence

CASE STUDY:

SOPHIE MERRINER

THE INTERVIEW

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THE INTERVIEW

Tell us about your collection in general and where the influence of your designs came from?

My concept is a social critique of the treatment and depiction of working-class people exploring themes such as crime, poverty and “chav” culture in relation to my hometown of Crawley. Coming from a working-class background myself, I've often faced classism and prejudice, so my concept became a reclamation of the term “chav” and what that means to me and a recognition that stereotypical working-class behaviours are often a result of the adversities we face.

Which fashion designer do you aspire to be like or take influence from?

I really admire Heliot Emil's aesthetic and I think the social commentary which influences my work aligns with designers such as Samuel Ross and Virgil Abloh who take inspiration from their backgrounds and upbringing.

How would you describe your collection aesthetics?

I would say my collection is dark and grungey but I find it difficult to nail myself down to one aesthetic and this is something I am continuing to explore within my work. I like to design womenswear which makes the wearer feel dangerous and powerful and I think my collection reflects that. I believe that clothes should be made perfectly and to last, and I appreciate the craft which goes into making clothing.

Where did you first see laser cutting used in fashion designs?

When I first began studying Textiles in secondary school, I remember being in absolute awe of Iris Van Herpen and how art could be translated into clothing.

When and why did you start using laser cutting in your fashion designs?

I began using laser cutting in my second year at University in a denim project where I explored interlocking shapes and patterns.

What influenced your decision to use laser cutting in your final year collection?

In my first semester of third year, we had to create a design inspired by circles. I decided to further explore the interlocking shapes I had sampled in my second-year denim project and to create an interlocking shape which when joined, would look like lots of circles. This was a huge success, and my design was selected to be shown at the UoS x Paris Fashion Week exhibition in January 2023. From there, I decided to develop the technique and I explored how I could create different silhouettes from this.

How long did your collection take to create from start to finish?

4 months.

OUR COLLABORATION

Why did you want to work with Laser Cutting Services in the production of your final year collection?

Whilst we have a laser cutting studio at university, I was limited by the size of the machines and the materials that we could cut there, as well as finding time to get all my pieces cut as the studio is shared with all the other creative students at the university. Laser Cutting Services were able to offer laser cutting on the roll, which meant my fabric could be cut continuously and were able to dedicate time for my pieces to be cut before my deadline. Collaboration is important in the fashion industry and I was extremely excited about collaborating with a company who are so experienced in what they do.



MD, Sarah Gleave meeting with Sophie Merriner

CASE STUDY:

SOPHIE MERRINER THE INTERVIEW

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How did you find Laser Cutting services to work with? Describe the process?

Laser cutting services were great to work with – I was able to come in and test my fabrics which was great fun and informative and it definitely helped when making decisions about the materials I was going to use in my final collection. I conducted a lot of my testing and toiling at university, and when I was ready to make the final garments, I created a tech pack for Laser Cutting Services detailing what I needed cut and in which fabrics, along with my files.

What was the communication like? How efficient was the production?

It was extremely efficient, and I felt very assured that I was receiving a professional service. I received all my laser cutting a week before the deadline I had given them, which gave me extra time to sew my collection. The communication was great and if there were any problems or questions they didn't hesitate to ask rather than guess, which again was very assuring. I received all pieces cut to a high standard and in the correct amounts.

Do you feel like our knowledge helped you when designing your collection and production?

Definitely. Not just with my collection but with laser cutting overall, especially about materials which can be cut and why some materials can't be used.

What do you feel the advantages are with using laser cutting for fashion?

It is very efficient when cutting a repetitive shape in large volumes. When using certain materials, laser cutting can seal the edge of the fabric and prevent fraying which can make finishing a garment a lot easier. Complex and intricate shapes which would be impossible to cut with scissors can also be done with the laser cutter.

Which fabrics did you choose to use for this collection and why did they need to be lasercut?

I used all woven fabrics, one of them was a polyamide and the others were coated. Due to the repetitive shapes I was using laser cutting them was huge time saver. It also prevented fabric wastage as Laser Cutting Services were able to work out a layout which was most efficient. For my mini dresses, I needed the fabric edge to be sealed and for the shapes to be geometrically precise which laser cutting was able to achieve.

Have you laser cut many materials in the past?

I've cut with denim which can fray a lot and also a polyester satin which was successful as the edge seals due to it being a synthetic fibre.



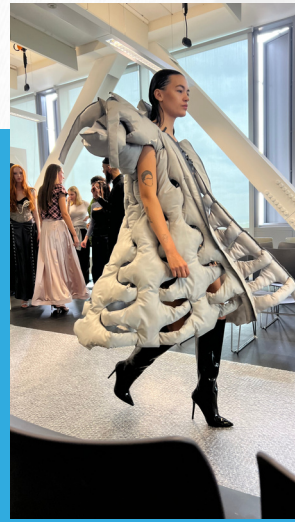
CHALLENGES

What challenges did you come across that arose in the design phase of your collection and how did you overcome them?

I think designing things which would be achievable to make in the short amount of time that I had. I think sometimes as creatives, our imaginations can run wild, but it ultimately comes down to what is technically possible to make.

CASE STUDY: AN INTERVIEW WITH FASHION DESIGNER SOPHIE MERRINER

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What challenges did you come across that arose in the production phase of your collection and how did you overcome them?

I think particularly in the toiling phase of my collection is where I ran into problems. When toiling my laser cut mini dress, it took 5 toiles to perfect the fit and make sure all the measurements were accurate and for the pattern to match up perfectly. I am a huge perfectionist which whilst I consider a strength, it can also be a weakness, so throughout the production phase I did have to be strict on myself to not let my over-perfectionist ways prevent me from finishing the collection on time.

What challenges did you come across that arose in the catwalk phase of your collection and how did you overcome them?

I was very lucky that the show went really smoothly for me. However, everyone's bodies are different, so when you make something to fit a standard size 10 mannequin, it is not necessarily going to fit a model with different proportions. My laser cut mini dresses were the exact measurements of the size 10 mannequin so one of them didn't fit the model on the bust correctly which slightly skewed the pattern. I don't think this was a huge problem though as my idea still showed and the garments looked amazing on her.

What was the most challenging of your designs to execute and why?

Definitely my laser cut puffer coat as I didn't have time to toile it, so it was a complete stab in the dark when it came to making it. It was extremely heavy and difficult to sew, so my initial plan for how to construct the shoulders didn't go well and I had to find an alternative way to tie the shoulders together so that the model could wear it. It actually worked out way better than planned and was one of my strongest pieces in the collection.

What was your favourite piece from the collection and why?

I am extremely proud of my mini dresses as they are so technically accurate and I put a lot of work into making sure they were perfect. I was also really happy with the fabric choices too.

FUTURE WORK

Will you continue to use laser cutting in your design work?

Most definitely! I would love to continue developing the interlocking pattern and perhaps create wearable products for people to buy.

Where do you aspire to be in 5 years time?

In 5 years time, I'm hoping to have completed an MA degree and have gained some really good work experience within the fashion industry. At this point, I would like to be well on the way with my own brand, selling my own products and have clients whom I make bespoke products for.



Laser Cut Puffer Coat