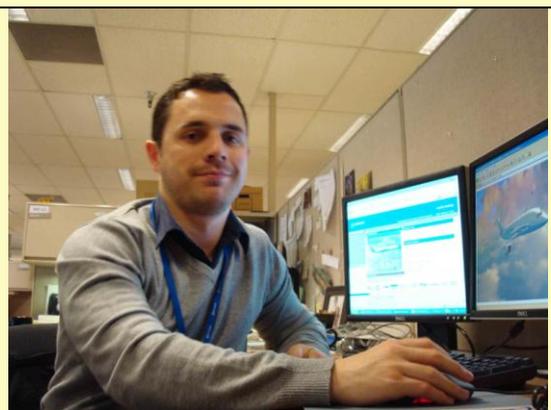


**MR. BRIAN CULLEN**

**SYSTEMS ENGINEER  
RYANAIR LTD.  
DUBLIN, IRELAND**

[www.ryanair.com/ie](http://www.ryanair.com/ie)



### **Education and Training**

→ B. Eng. (Hons) Aeronautical Eng, University of Limerick, Ireland, 2009

### **Current Position**

<b>Title</b>	<b>Dates</b>	<b>Employer</b>
Systems Engineer	Nov 2009 - Present	Ryanair Ltd, Dublin, Ireland

### **Previous Positions**

<b>Title</b>	<b>Dates</b>	<b>Employer</b>
Reliability Engineer	Aug 2009 - Nov 2008	Ryanair Ltd, Dublin, Ireland
Undergraduate Design Engineer	June-Sept 08	Bombardier, Belfast, N. Ireland
Quality Assurance Assistant	Aug 07 - Jan 08	Airbus, Toulouse, France

### **"Home" Town(s)/County(s)**

Swords, Co. Dublin

### **Please describe your current job**

Aircraft Systems for the Ryanair fleet of Boeing 737-800 include; Pneumatic & Hydraulic Systems, Auxiliary Power Unit (APU), Warning Systems, Ice Protection, Landing Gear Systems, Pressurisation & Air Conditioning Systems, amongst many. Ryanair System Engineers are responsible for providing support to Ryanair aircraft line Technicians in the event that technical issues arise or Boeing design modifications need to be implemented. A typical Systems Engineer at Ryanair will be responsible for monitoring and reviewing Service Bulletins (SBs) released by Boeing which may constitute a mandatory design change to the applicable aircraft model operated by the operator. Design changes to

aircraft must be implemented within a specified timeframe, as detailed on the SB, in order to comply with aviation laws. The consequence of non-compliance can result in the grounding of an operator's applicable fleet. System Engineers at Ryanair are also tasked with providing troubleshooting methods, outlined in the Boeing Aircraft Maintenance Manual (AMM), to line Technicians when systems are not operating as expected. Typically, the issue will be resolved but for instances where this is not the case, Boeing Customer System Support Engineers will need to be notified in order to achieve a desirable outcome.

Other duties of Systems Engineers at Ryanair include: liaising with Boeing Customer Support & onsite Boeing Reps regarding system failures & how to resolve these issues, creation of technical reports in order to highlight frequent component failures for a particular system, and coordinate with the Reliability Department in order to seek an explanation/resolution from Boeing. One needs to display a high level of competence when referring to Boeing electronic manuals for the generation of work orders for the line Technicians.

My primary responsibility is the Pneumatic System for Ryanair's B737-800 aircraft. The pneumatic system in question is the Air Conditioning system. A typical problem that occurs with this system is temperature inconsistency for the three zones (i.e. Flight Deck, Forward Passenger & Aft Passenger Cabin) in which conditioned air is dispersed. The varying temperature can result from many things such as component failure (i.e. temperature control valves, sensors, heat extractors/exchangers, trim valves) within the air conditioning system or the formation of ice particles which can restrict air flow within the system and differential pressure experienced at the Engine Bleed Air Inlets. Understanding the functioning and how to troubleshoot the system can help isolate the fault, thus, typically resolving the issue by replacing the defective part/component.

I am generally based in Ryanair's Technical Service Department on Conyngham Road, Dublin 8. However, at present I am in Seattle, Washington State, working on behalf of Ryanair for Boeing. This experience is part of the graduate scheme Ryanair operate. The duration is 3 months and the responsibility is to study an Air Transport Association (ATA) chapter, chosen by Ryanair, in order to gain a more in-depth understanding of common problems associated with the B737-800. Currently, I am studying ATA chapter 21 & 29 - pressurisation and hydraulics. A month prior to Seattle, I was based in Prestwick, Glasgow at Ryanair's main maintenance hangars. Here I spent 4 weeks shadowing aircraft technicians - in some instances I was involved in a hands-on role - in order to enhance my understanding of the world's top selling aircraft, the Boeing 737.

The idea is to become accustomed with the key systems/parts/components of the aircraft in terms of their location, interface and functions.

The most interesting aspect of the graduate scheme with Ryanair is the opportunity to work with the aircraft on a mechanical basis. Fusing both the theoretical background gained via University and the newly acquired mechanical knowledge certainly gives a far superior understanding of the principles of flight and a more detailed understanding of sophisticated systems that control/maintain the overall functioning of an aircraft. I believe this is very important as it opens many doors within the aviation industry in terms of the field you wish your career path to pursue, i.e. operator or manufacturer. Another interesting aspect about this graduate scheme is specialisation in one or more ATA chapters. This means a trip to Boeing Seattle is very likely. This gives Ryanair graduates an advantage over many other graduates employed with other airlines.

Yes, the job is enjoyable as no day is ever the same. This is an aspect of the job that really appeals to me as every day is a school day in this industry! The responsibility that accompanies the job is second to none. Ryanair are not afraid to throw graduates 'head first' into the firing line. This is like no other and stands well to Ryanair graduates who opt to leave at the end of their 3 years and seek employment elsewhere. In addition, the graduate scheme is set up to give all graduates experience within the many sections of an airline (i.e. materials, quality assurance, technical services & maintenance). This means graduates are likely to experience several months at each one of these sections at some stage of the scheme. Again, a great wealth of knowledge can be built up during the course of your employment, a factor which was crucial to my decision to accept employment with Ryanair.

**Please describe your career path since graduating with your B.Eng. Aeronautical Eng.**

Not much to describe here but sure here's something!

Career path since graduating from UL has led me to sole employment with Ryanair. I guess this can be considered a deviation as quite a number of modules studied during the 4 years in UL are irrelevant to this type of employment. The only modules I can relate to this type of employment are Aircraft Maintenance, Avionics and Aviation Management. The reason why I opted for this path is because I wanted to get a more mechanical feel for aircraft. In other words, I have access to physically view any issues incurred by the aircraft during

operating which enables a greater understanding in order to establish an acceptable resolution, if required. Furthermore, I believe I have and can continue to acquire a more extensive range of knowledge from working with aircraft technicians on the role of mechanical/electrical components and why they are designed in this way in order to perform their primary functions.

**What made you decide to study Aeronautical Engineering at UL?**

Basically, my interest in aircraft led me to pursue a career in aeronautical engineering. UL is the only university in the Republic where this course can be studied. In addition, I had heard many good things about the university whether it be from fellow graduates or via articles published regarding the standard of teaching and facilities available at the university.

**Are you glad you did?**

Yes!!!!

**What did you most enjoy about studying at UL - academically, and also non-academically?**

Academically - the continuous work is better suited to my ability to learn as opposed to end of year exams where all accumulated knowledge throughout the semester is concentrated here. The Coop experience is so important when seeking employment at the end of your degree. Very few, if any, Universities in the country give their students this opportunity. The facilities at the UL are fantastic and the services such as the Maths Learning centre are invaluable and contributed immensely to my success in achieving a degree. Also, flight labs, design build fly project and CAD are subjects I really enjoyed and found highly relevant to what my perception of Aeronautical Engineering entailed.

Non-Academically - Fantastic group of people from both Mechanical and Aeronautical classes. In general, my memories will always be the people I met and still keep in touch with. As for the University grounds, location, facilities, activities, lifestyle, atmosphere etc.. I'd honestly struggle to imagine they'd be much better elsewhere.

**Where did you do your COOP?**

Airbus, Toulouse. It's a bit early to say whether or not my experience at Airbus has had a significant impact on the career path I wish to pursue as I am not currently employed with an aircraft manufacturer. However, I will confess that this was the most concentrated on topic on my cv during my interview with Ryanair. Without a doubt Coop is crucial to UL students as it gives them an

advantage over other non-UL graduates. At Airbus, it's very rare that undergraduates are entrusted with responsibility at any great scale. This was the case for me. However, the experience and the observations made stand well when seeking to understand the aviation industry and the roles of individuals when solving problems or being innovated. Shadowing various experienced individuals with various roles to play was very interesting and definitely a taste of what lies ahead at the end of my studies. For these reasons I would class my time with Airbus as invaluable and certainly worthwhile.

**What advice would you give school-goers considering choosing Aeronautical Engineering?**

Be sure to be interested in aircraft or the aviation industry. I think having an interest in any course you wish to undertake is important as you will find it easier to relate to. Also, make sure you enjoy core subjects at school such as maths, physics and computing as Aeronautical Engineering is littered with modules consisting of these subjects.

Finally, be prepared to work as a team or within a group as a lot of modules consist of course reports that typically involve two or more individuals.

**What advice would you give future graduates of Aeronautical Engineering?**

Don't be afraid to test the water! In other words, the aviation industry is vast and very diverse. Knowing what area to go into at the end of University can be daunting particularly for graduates who have no idea where to start searching for employment. So my advice is not to be fearful of making the wrong decision but rather try as many fields as possible. Eventually you'll find your niche.