

13. Přílohy

Příloha č.1

Osnovy předmětů Provozní postupy a Spojení dle
JAR-FCL Amendment 2

Dodatek 1 k JAR-FCL 1.470 (pokračování)

[Letoun			Vrtulník		
		ATPL	CPL	IR	ATPL	CPL	IR
070 00 00 00	PROVOZNÍ POSTUPY	X	X	X	X	X	X
071 00 00 00	PROVOZNÍ POSTUPY - LETOUN	X	X				
071 00 00 00	PROVOZNÍ POSTUPY – ZVLÁŠTNÍ A NOUZOVÉ POSTUPY - VRTULNÍK				X		
071 00 00 00	PROVOZNÍ POSTUPY - LETADLO			X			X
071 01 00 00	VŠEOBECNĚ	X	X	X	X	X	X
071 01 01 00	- Annex 6 ICAO, Části I, II a III (podle použitelnosti); definice - působnost - všeobecný rámec a obsah	X	X			X	
071 01 02 00	JAR-OPS - Požadavky	X	X	X	X	X	X
071 01 02 01	Všeobecné požadavky na: - systém jakosti - přespočetné členy posádky - způsob přepravy osob - přístup do pilotního prostoru - neoprávněnou přepravu - přenosná elektronická zařízení - ohrožení bezpečnosti - další informace a formuláře nezbytné na palubě během letu - informace ponechávané na zemi - pravomoc kontrolovat - předkládání dokumentace a záznamů - uchovávání dokumentace - pronájem	X	X			X	
071 01 02 02	Požadavky na dozor a osvědčování provozovatele: - všeobecná pravidla pro Osvědčení leteckého dopravce (AOC) - vydání - změna a zachování platnosti AOC - administrativní požadavky	X	X			X	
071 01 02 03	Požadavky provozních postupů: - provozní řízení a dozor - použití letových provozních služeb - postupy přístrojových odletů a příletů - přeprava osob se sníženou pohyblivostí - přeprava nepřízpůsobivých cestujících, osob deportovaných nebo ve vazbě - uložení zavazadel a nákladu - rozsazení cestujících - zajištění kabiny cestujících a kuchyňky(-něk) - kouření na palubě - podmínky vzletu - použití vzletových minim	X	X			X	
071 01 02 04	Požadavky pro provoz za každého počasí: provoz za nízké dohlednosti. - Letištní provozní minima – Všeobecně - Názvosloví - Provoz za nízké dohlednosti - Všeobecná provozní pravidla - Provoz za nízké dohlednosti - Faktor letišť - Provoz za nízké dohlednosti - Výcvik a kvalifikace - Provoz za nízké dohlednosti - Provozní postupy - Provoz za nízké dohlednosti - Minimální vybavení - Provozní minima VFR	X	X		X	X	X

Dodatek 1 k JAR-FCL 1.470 (pokračování)

I		Letoun			Vrtulník		
		ATPL	CPL	IR	ATPL	CPL	IR
071 01 02 05	Požadavky na přístroje a bezpečnostní vybavení: - všeobecný úvod - zařízení na ochranu elektrických obvodů - stěrače čelního skla - palubní meteorologický radar - systém interkomu letové posádky - systém palubního rozhlasu - vnitřní dveře a závěsy - soupravy první pomoci - lékařská souprava první pomoci - kyslík pro první pomoc - doplňková dodávka kyslíku – letouny s přetlakovou kabinou - doplňková dodávka kyslíku – letouny bez přetlakové kabiny - ochranné dýchací vybavení posádky - ruční hasicí přístroje - havarijní sekyry a páčidla - označení míst pro vniknutí do trupu letadla - prostředky pro nouzové opuštění letadla - megafony - nouzové osvětlení - automatický polohový maják nehody - záchranné vesty - záchranné čluny a ELT pro dálkové lety nad vodou - vybavení pro přežití	x			×	x	
071 01 02 06	Požadavky na komunikační a navigační vybavení: - rádiové vybavení - ovládací panel komunikací - rádiové vybavení pro VFR - komunikační a navigační vybavení IFR a VFR	x	x			×	
071 01 02 07	Údržba letounu: - názvosloví - žádost o a schválení a schválení systému údržby provozovatele - řízení údržby - systém jakosti - výklad řízení údržby provozovatele - program provozovatele pro údržbu letounu - zachování platnosti Osvědčení leteckého dopravce s ohledem na systém údržby - případ rovnocenné bezpečnosti	x			×	x	
071 01 02 08	Letová posádka	x	x		x	x	
071 01 02 09	Omezení doby letu a ve službě a požadavky odpočinku (Vyhrazeno)	x			×	x	
071 01 02 10	Palubní průvodčí	x	x		x	x	
071 01 03 00	Požadavky navigace pro dálkové lety	x					
071 01 03 01	Zvládnutí letu - postupy plánování navigace - vyplnění letových plánů - volba tratě, rychlosti, nadmožské výšky - výběr náhradního letiště - časově nejkratší tratě, definice	x					
071 01 03 02	Trasoceánský a polární let (Oblastní doplňkové postupy - ICAO Doc. 7030) - volba nouzových prostředků pro stanovení kurzu a vzájemné kontroly INS - vzájemné kontroly - stanovení tratí a kurzů - polární tratě - charakteristika zemského magnetismu v polárních oblastech - typické problémy polární navigace	x					

Dodatek 1 k JAR-FCL 1.470 (pokračování)

I		Letoun			Vrtulník		
		ATPL	CPL	IR	ATPL	CPL	IR
071 01 03 03	Vzdušný prostor MNPS (Specifikace minimální navigační výkonnosti) (Oblastní doplňkové postupy - ICAO Doc. 7030, Instrukční a informační text týkající se navigace v oblasti NAT a Provozní příručka pro Severoatlantický vzdušný prostor MNPS a RVSM - Doc.001 NAT, T 13 5N/5) - definice - geografické hranice - předpisy a postupy - vyhlášení	X					
071 02 00 00	ZVLÁŠTNÍ PROVOZNÍ POSTUPY A NEBEZPEČÍ (OBECNÁ HLEDISKA)		X		X	X	X
071 02 01 00	Seznam minimálního vybavení - Letová příručka (AFM)	X	X			X	
071 02 02 00	Odmrazování na zemi - podmínky námrazy - definice a rozpoznání na zemi/za letu - odmrazování, ochrana proti námraze, druhy odmrazovacích kapalin - zhoršení úrovně výkonnosti na zemi/ve vzduchu	X	X			X	
071 02 03 00	Nebezpečí a předcházení střetu s ptáky	X	X		X	X	
071 02 04 00	Snižování hluku - vliv letového postupu (pro odlet, cestovní let a přiblížení) - vliv pilota (nastavení výkonu, nízký odpor, nízký výkon) - vliv pilota (nastavení výkonu, trať vrtulníku)	X	X		X	X	
071 02 05 00	Požár/kouř - požár karburátoru - požár motoru - požár v kabině, v pilotním prostoru, v nákladovém prostoru (volba vhodných hasících látek podle klasifikace požáru a použití hasících přístrojů) - činnosti v případě přehřátých brzd po přerušeném vzletu a po přistání - kouř v pilotním prostoru a v kabině (účinky a prováděné zásahy)	X	X		X	X	
071 02 06 00	Dekomprese přetlakové kabiny - pomalá dekomprese - rychlá nebo explozivní dekomprese - nebezpečí a prováděné zásahy	X	X				
071 02 07 00	Střih větru, microburst - definice a popis - účinky a rozpoznání během odletu a přiblížení - činnosti k vyhnutí se a při střetu	X	X			X	
071 02 08 00	Turbulence v úplavu - příčina - vliv rychlosti a hmotnosti, vítr - činnosti podnikané při křížování provozu během vzletu a přistání	X	X		X	X	X
071 02 09 00	Ochrana - protiprávní činy	X	X			X	
071 02 10 00	Nouzová a bezpečnostní přistání Provoz v různém terénu – na vodě (např. svahy, hory, džungle, pobřežní vody) - definice - příčina - faktory, které je nutno brát v úvahu (vítr, terén, příprava, taktika letu, přistání v různém terénu a na vodě) - informace cestujícím - evakuace - činnost po přistání	X	X			X	

Dodatek 1 k JAR-FCL 1.470 (pokračování)

		<i>Letoun</i>			<i>Vrtulník</i>		
		ATPL	CPL	IR	ATPL	CPL	IR
071 02 11 00	Rychlé vypouštění paliva za letu - aspekty bezpečnosti - právní aspekty	X			⊗	X	
071 02 12 00	Přeprava nebezpečného zboží - Annex 18 - praktické aspekty	X			⊗	X	
071 02 13 00	Znečištěné dráhy - druhy znečištění - brzdový účinek, součinitel brzd - výpočty a opravy výkonnosti	X			⊗	X	
071 02 14 00	Sestupný proud vzduchu za rotorem				X	X	
071 02 15 00	Provoz vliv meteorologických podmínek, např. - námraza - white out - silný vítr - stříh větru, microburst					⊗	
071 03 00 00	NOUZOVÉ POSTUPY vliv technických problémů, např. - závada motoru - požár v kabině, pilotním prostoru, motoru - závada směrového řízení ocasu/rotoru - pozemní rezonance - pádový režim listu - vyrovnání vírového prstence na výkonu - překlopení - překročení rychlosti - náhlé zastavení - dynamické překlonění/kmitání hřídele nosného rotoru					⊗	

ZÁMERNĚ

Dodatek 1 k JAR-FCL 1.470 (pokračování)

[Letoun			Vrtulník		
		ATPL	CPL	IR	ATPL	CPL	IR
090 00 00 00	SPOJENÍ	X	X	X	X	X	X
091 00 00 00	SPOJENÍ VFR	X	X		X	X	
091 01 00 00	DEFINICE	X	X		X	X	
091 01 01 00	Významy a důležitost souvisejících pojmů	X	X		X	X	
091 01 02 00	Zkratky řízení letového provozu	X	X		X	X	
091 01 03 00	Skupiny Q - kódů běžně používané v R/T spojení vzduch - země	X	X		X	X	
091 01 04 00	Kategorie zpráv	X	X		X	X	
091 02 00 00	OBECNÉ PROVOZNÍ POSTUPY	X	X		X	X	
091 02 01 00	Vysílání písmen	X	X		X	X	
091 02 02 00	Vysílání čísel (včetně informační úrovně)	X	X		X	X	
091 02 03 00	Vysílání času	X	X		X	X	
091 02 04 00	Způsob vysílání	X	X		X	X	
091 02 05 00	Standardní slova a fráze (zahrnuta platná frazeologie RT)	X	X		X	X	
091 02 06 00	Radiotelefonní volací znaky pro letecké stanice, včetně použití zkrácených volacích znaků	X	X			X	
091 02 07 00	Radiotelefonní volací znaky pro letadla, včetně použití zkrácených volacích znaků	X	X			X	
091 02 08 00	Předávání spojení	X	X		X	X	
091 02 09 00	Postupy zkoušky zahrnující stupnici srozumitelnosti	X	X		X	X	
091 02 10 00	Požadavky potvrzování a zpětného opakování zprávy	X	X		X	X	
091 02 11 00	Radarová předpisová frazeologie	X	X		X	X	
091 03 00 00	DŮLEŽITÉ VÝRAZY METEOROLOGICKÉ INFORMACE (VFR)	X	X		X	X	
091 03 01 00	Počasí letišť	X	X		X	X	
091 03 02 01	Meteorologické rozhlasové vysílání	X	X		X	X	
091 04 00 00	PŘEDEPSANÁ ČINNOST PŘI ZTRÁTĚ SPOJENÍ	X	X		X	X	
091 05 00 00	TÍSŇOVÉ A PILNOSTNÍ POSTUPY	X	X		X	X	
091 05 01 00	Tíseň (definice - kmitočty – trvalé bdění na tíšňových kmitočtech - signál - zpráva)	X	X			X	
091 05 02 00	Pilnost (definice - kmitočty - signál - zpráva)	X	X		X	X	
091 06 00 00	OBECNÉ PRINCIPY ŠÍŘENÍ VHF A PŘIDĚLOVÁNÍ KMITOČTŮ		X			X	
092 00 00 00	SPOJENÍ IFR	X		X	X		X
092 01 00 00	DEFINICE	X		X	X		X
092 01 01 00	Významy a důležitost souvisejících pojmů	X		X	X		X

Dodatek 1 k JAR-FCL 1.470 (pokračování)

I		Letoun			Vrtulník		
		ATPL	CPL	IR	ATPL	CPL	IR
092 01 02 00	Zkratky řízení letového provozu (ATC)	x		x	x		x
092 01 03 00	Skupiny Q - kódů běžně používané v R/T spojení vzduch - země	x		x	x		x
092 01 04 00	Kategorie zpráv	x		x	x		x
092 02 00 00	VŠEOBECNÉ PROVOZNÍ POSTUPY	x		x	x		x
092 02 01 00	Vysílání písmen	x		x	x		x
092 02 02 00	Vysílání čísel (včetně informační úrovně)	x		x	x		x
092 02 03 00	Vysílání času	x		x	x		x
092 02 04 00	Způsob vysílání	x		x	x		x
092 02 05 00	Standardní slova a fráze (zahrnuta platná R/T frazeologie)	x		x	x		x
092 02 06 00	Radiotelefonní volací značky pro letecké stanice, včetně použití zkrácených volacích značek	x			⊗		x
092 02 07 00	Radiotelefonní volací značky pro letadla, včetně použití zkrácených volacích značek	x			⊗		x
092 02 08 00	Předávání spojení	x		x	x		x
092 02 09 00	Postup zkoušky zahmující stupnici srozumitelnosti; navázání R/T spojení	x			⊗		x
092 02 10 00	Požadavky potvrzování a zpětného opakování zprávy	x		x	x		x
092 02 11 00	Radarová procedurální frazeologie	x		x	x		x
092 02 12 00	Změny úrovně a hlášení	x		x	x		x
092 03 00 00	PŘEDEPSANÁ ČINNOST PŘI ZTRÁTĚ SPOJENÍ	x		x	x		x
092 04 00 00	TÍŠŇOVÉ A PILNOSTNÍ POSTUPY	x		x	x		x
092 04 01 00	Zdravotnický PAN	x		x	x		x
092 04 02 00	Tíseň (definice – kmitočty – trvalé bdění na tíšňových kmitočtech – tíšňový signál - tíšňová zpráva)	x			⊗		x
092 04 03 00	Pilnost (definice - kmitočty – pilnostní signál – pilnostní zpráva)	x		x	x		x
092 05 00 00	DŮLEŽITÉ VÝRAZY METEOROLOGICKÉ INFORMACE (IFR)			⊗			⊗
092 05 01 00	Počasi letiště	x		x	x		x
092 05 02 00	Meteorologické rozhlasové vysílání	x		x	x		x
092 06 00 00	VŠEOBECNÉ PRINCIPY ŠÍŘENÍ VHF A PŘIDĚLOVÁNÍ KMITOČTŮ			⊗			⊗
092 07 00 00	MORSEOVA ABECEDA	x	x	x	x	x	x

[Amdt. 1, 01.06.00; Amdt. 2, 01.08.02

Příloha č. 2

Osnovy předmětů Provozní postupy a Spojení dle
JAR-FCL Amendment 5

Dodatek 1 k JAR-FCL 1.470 (pokračování)

		Letoun		Vrtulník			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
062 00 00 00	RADIONAVIGACE	x	x	x	x	x	x
062 01 00 00	ZÁKLADNÍ TEORIE ŠÍŘENÍ RADIOVÝCH VLN						
062 02 00 00	RADIOVÉ PROSTŘEDKY						
062 03 00 00	RADAR						
062 04 00 00	<i>Zám rně nepoužito</i>						
062 05 00 00	SYSTÉMY PROSTOROVÉ NAVIGACE, RNAV/FMS						
062 06 00 00	GLOBÁLNÍ NAVIGAČNÍ SATELITNÍ SYSTÉM						

		Letoun		Vrtulník			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
070 00 00 00	PROVOZNÍ POSTUPY	x	x	x	x	x	
071 01 00 00	VŠEOBECNÉ POŽADAVKY						
071 02 00 00	ZVLÁŠTNÍ PROVOZNÍ POSTUPY A NEBEZPEČÍ (OBEČNÁ HLEDISKA)						
071 03 00 00	VRTULNÍKOVÉ NOUZOVÉ POSTUPY						

		Letoun		Vrtulník			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
080 00 00 00	ZÁKLADY LETU	x	x	x	x	x	
081 00 00 00	ZÁKLADY LETU – LETOUN	x	x				
081 01 00 00	AERODYNAMIKA SUBSONICKÝCH RYCHLOSTÍ						
081 02 00 00	AERODYNAMIKA VYSOKÝCH RYCHLOSTÍ						
081 03 00 00	<i>Zám rně nepoužito</i>						
081 04 00 00	STABILITA						
081 05 00 00	ŘÍZENÍ						
081 06 00 00	OMEZENÍ						
081 07 00 00	VRTULE						
081 08 00 00	MECHANIKA LETU						

ZÁM RNĚ NEPOUŽITO

Dodatek 1 k JAR-FCL 1.470 (pokračování)

		Letoun		Vrtulník			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
090 00 00 00	SPOJENÍ	x	x	x	x	x	x
091 00 00 00	SPOJENÍ VFR						
091 01 00 00	DEFINICE						
091 02 00 00	OBECNÉ PROVOZNÍ POSTUPY						
091 03 00 00	PŘÍSLUŠNÉ VÝRAZY Z METEOROLOGICKÝCH ZPRÁV (VFR)						
091 04 00 00	POŽADOVANÁ ČINNOST PŘI ZTRÁTĚ SPOJENÍ						
091 05 00 00	TÍŠŇOVÉ A PILNOSTNÍ POSTUPY						
091 06 00 00	OBECNÉ PRINCIPY ŠÍŘENÍ VHF A PŘIDĚLOVÁNÍ KMITOČTŮ						
092 00 00 00	SPOJENÍ IFR						
092 01 00 00	DEFINICE						
092 02 00 00	VŠEOBECNÉ PROVOZNÍ POSTUPY						
092 03 00 00	POŽADOVANÁ ČINNOST PŘI ZTRÁTĚ SPOJENÍ						
092 04 00 00	TÍŠŇOVÉ A PILNOSTNÍ POSTUPY						
092 05 00 00	PŘÍSLUŠNÉ VÝRAZY Z METEOROLOGICKÝCH ZPRÁV (IFR)						
092 06 00 00	OBECNÉ PRINCIPY ŠÍŘENÍ VHF A PŘIDĚLOVÁNÍ KMITOČTŮ						
092 07 00 00	MORSEOVA ABECEDA						

[Amdt. 1, 01.06.00; Amdt. 2, 01.08.02; Amdt. 6, 01.08.06]

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ZÁMĚRNĚ NEPOUŽITO

Příloha č. 3

Osnova předmětu Provozní postupy zpracovaná
dle Learning Objectives 2007

JAA Administrative & Guidance Material
Section Five: Licensing, Part Two: Procedures

CHAPTER 19: DETAILED THEORETICAL KNOWLEDGE SYLLABUS AND LEARNING OBJECTIVES

Subject – 070 – Operational Procedures

See Appendix 1 to JAR-FCL 1.470 and JAR-FCL 2.470

Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
070 00 00 00	OPERATIONAL PROCEDURES						
071 01 00 00	GENERAL REQUIREMENTS						
071 01 01 00	ICAO Annex 6						
071 01 01 01	Definitions						
LO	Alternate aerodrome : take-off alternate, en-route alternate, ETOPS en-route alternate, destination alternate (ICAO Annex 6 Part I Chapter 1)	x	x				
LO	Alternate heliport (ICAO Annex 6 Part III Section 1 Chapter 1)			x	x	x	
LO	Flight time - aeroplanes (ICAO Annex 6 Part I Chapter 1)	x	x				
LO	Flight time - helicopters (ICAO Annex 6 Part III Section 1 Chapter 1)			x	x	x	
071 01 01 02	Applicability						
LO	State that Part 1 shall be applicable to the operation of aeroplanes by operators authorized to conduct international commercial air transport operations (ICAO Annex 6 Part I Chapter 2)	x	x				
LO	State that Part 3 shall be applicable to all helicopters engaged in international commercial air transport operations or in international general aviation operations, except it is not applicable to helicopters engaged in aerial work. (ICAO Annex 6 Part III Section 1 Chapter 2)			x	x	x	
071 01 01 03	General						
LO	State compliance with laws, regulations and procedures (ICAO Annex 6 Part I Chapter 3.1 / Part III Section 2 Chapter 1.1)	x	x	x	x	x	
LO	State accident prevention and flight safety programme (ICAO Annex 6 Part I Chapter 3.2)	x	x				
LO	State flight safety documents system (ICAO Annex 6 Part I Chapter 3.3)	x	x				

JAA Administrative & Guidance Material
Section Five: Licensing, Part Two: Procedures

CHAPTER 19: DETAILED THEORETICAL KNOWLEDGE SYLLABUS AND LEARNING OBJECTIVES

Subject – 070 – Operational Procedures

See Appendix 1 to JAR-FCL 1.470 and JAR-FCL 2.470

Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State maintenance release (ICAO Annex 6 Part I Chapter 8.8 / Part III Section 2 Chapter 6.7)	x	x	x	x	x	
LO	List and describe the lights to be displayed by aircraft (ICAO Annex 6 Part I Appendix 1)	x	x				
071 01 02 00	JAR-OPS						
071 01 02 01	JAR-OPS Subpart A - Applicability						
LO	Explain the terms : 'commercial aviation', 'general aviation' and 'aerial work'.	x	x	x	x	x	
LO	State JAR-OPS applicability (JAR-OPS 1.001 / 3.001)	x	x	x	x	x	
071 01 02 02	JAR-OPS Subpart B - General						
LO	State that a commercial air transportation flight must be in accordance with JAR OPS (JAR-OPS 1.005 / 3.005)	x	x	x	x	x	
LO	Flight manual limitations – Flight through the height velocity (HV) envelope (JAR-OPS 3.005 (c) Appendix 1)			x	x	x	
LO	Helicopter Emergency Medical Service – Terminology (JAR-OPS 3.005 (d) Appendix 1)			x	x	x	
LO	Operations over a hostile environment – Applicability (JAR-OPS 3.005 (e) Appendix 1)			x	x	x	
LO	Small helicopters operations – Terminology and Approval (JAR-OPS 3.005 (f) Appendix 1)			x	x	x	
LO	Local area operations – Approval (JAR-OPS 3.005 (g) Appendix 1)			x	x	x	
LO	State the requirements about language for crew communication and operations manual (JAR-OPS 1.025 / 3.025)	x	x	x	x	x	
LO	State the operator's requirements regarding a quality system (JAR-OPS 1.035 / 3.035)	x	x	x	x	x	
LO	State the operator's requirements regarding accident prevention and flight safety program (JAR-OPS 1.037 / 3.037)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the operator's responsibility regarding the training requirements of crew members who are neither flight crew nor cabin crew (JAR-OPS 1.040 / 3.040)	x	x	x	x	x	
LO	State the operations limitations regarding ditching requirements (JAR-OPS 1.060)	x	x				
LO	State the regulations concerning the carriage of persons on an aircraft (JAR-OPS 1.075 / 3.075)	x	x	x	x	x	
LO	State the crew members responsibilities in the execution of their duties, and define the commander authority (JAR-OPS 1.085-090 / 3.085-090)	x	x	x	x	x	
LO	State the operator's and commander's responsibilities regarding admission to the flight deck and the carriage of unauthorized persons or cargo (JAR-OPS 1.100-105 / 3.100-105)	x	x	x	x	x	
LO	State the operator's responsibility concerning portable electronic devices (JAR-OPS 1.110 / 3.110)	x	x	x	x	x	
LO	State the operator's responsibilities regarding admission in an aircraft of a person under the influence of drug or alcohol (JAR-OPS 1.115 / 3.115)	x	x	x	x	x	
LO	State the regulations concerning endangering safety (JAR-OPS 1.120 / 3.120)	x	x	x	x	x	
LO	List the documents to be carried on each flight (JAR-OPS 1.125 / 3.125)	x	x	x	x	x	
LO	State the operator's responsibility regarding manuals to be carried (JAR-OPS 1.130 / 3.130)	x	x	x	x	x	
LO	List the additional information and forms to be carried on board (JAR-OPS 1.135 / 3.135)	x	x	x	x	x	
LO	List the items of information to be retained on the ground by the operator (JAR-OPS 1.140 / 3.140)	x	x	x	x	x	
LO	State the operator's responsibility regarding inspections (JAR-OPS 1.145 / 3.145)	x	x	x	x	x	
LO	State the responsibility of the operator and the commander regarding the production of and access to records and documents (JAR-OPS 1.150 / 3.150)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the operator's responsibility regarding the preservation of documentation and recordings ; including recorders recordings (JAR-OPS 1.155-160 / 3.155-160)	x	x	x	x	x	
LO	Define the terms used in leasing and state the responsibility and requirements of each party in various cases (JAR-OPS 1.165 / 3.165)	x	x	x	x	x	
071 01 02 03	JAR-OPS Subpart C - Operator certification and supervision						
LO	State the requirement to be satisfied for the issue of an Air Operator's Certificate (JAR-OPS 1.175 / 3.175)	x	x	x	x	x	
LO	State the rules applicable to Air Operator Certification (JAR-OPS 1.180 / 3.180)	x	x	x	x	x	
LO	State the conditions to be met for the issue or revalidation of an AOC (JAR-OPS 1.180 / 3.180)	x	x	x	x	x	
LO	Explain the contents and conditions of the AOC (JAR-OPS 1.175 Appendix 1 / 3.175 Appendix 1)	x	x	x	x	x	
071 01 02 04	JAR-OPS Subpart D - Operational procedures (except long range flights preparation)						
LO	State the operator's responsibilities regarding Operational control (JAR-OPS 1.195 / 3.195)	x	x	x	x	x	
LO	State the operator's responsibilities regarding Operations Manual (JAR-OPS 1.200 / 3.200)	x	x	x	x	x	
LO	State the operator's responsibilities regarding Competence of operations personnel (JAR-OPS 1.205 / 3.205)	x	x	x	x	x	
LO	State the operator's responsibilities regarding Establishment of procedures (JAR-OPS 1.210 / 3.210)	x	x	x	x	x	
LO	State the operator's responsibilities regarding Use of air traffic services (JAR-OPS 1.215 / 3.215)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the operator's responsibilities regarding Authorisation of Aerodromes/Heliports by the Operator (JAR-OPS 1.220 / 3.220)	x	x	x	x	x	
LO	State the operator's responsibilities regarding Aerodrome/Heliport operating minima (JAR-OPS 1.225 / 3.225)	x	x	x	x	x	
LO	State the operator's responsibilities regarding departure and approach procedures (JAR-OPS 1.230 / 3.230)	x	x	x	x	x	
LO	State the operator's responsibilities regarding Routes and areas of operation (JAR-OPS 1.240 / 3.240)	x	x	x	x	x	
LO	State the additional requirements for RVSM , RNAV and MNPS operations (JAR-OPS 1.241-243)	x	x				
LO	State the maximum distance from an adequate aerodrome for two-engined aeroplanes without an ETOPS Approval (JAR-OPS 1.245)	x	x				
LO	List the factors to consider when establishing minimum flight altitude (JAR-OPS 1.250-365 / 3.250-365)	x	x	x	x	x	
LO	Describe components of the fuel policy (JAR-OPS 1.255 + AMC / 3.255 + AMC)	x	x	x	x	x	
LO	State the requirements for carrying Persons with Reduced Mobility (JAR-OPS 1.260 / 3.260)	x	x	x	x	x	
LO	State the operator's responsibilities for the carriage of inadmissible passengers, deportees or persons in custody (JAR-OPS 1.265 / 3.265)	x	x	x	x	x	
LO	State the requirements for the stowage of baggage and cargo in the passenger cabin (JAR-OPS 1.270 + Appendix 1 / 3.270 + Appendix 1)	x	x	x	x	x	
LO	State the requirements regarding passenger seating and emergency evacuation (JAR-OPS 1.280 / 3.280)	x	x	x	x	x	
LO	Detail the content of a passenger briefing in respect of emergency equipment and exits (JAR-OPS 1.285 / 3.285)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the flight preparation forms to be completed before flight (JAR-OPS 1.290 / 3.290)	x	x	x	x	x	
LO	State the commander responsibilities during flight preparation (JAR-OPS 1.290 / 3.290)	x	x	x	x	x	
LO	State the rules for aerodromes/heliports selection (including ETOPS configuration) (JAR-OPS 1.295 / 3.295)	x	x	x	x	x	
LO	State the rules for refuelling/defuelling (JAR-OPS 1.305-307 / 3.305-307)	x	x	x	x	x	
LO	State crew members at station policy (JAR-OPS 1.310 / 3.310)	x	x	x	x	x	
LO	State use of seats, safety belts and harnesses (JAR-OPS 1.320 / 3.320)	x	x	x	x	x	
LO	State securing of passenger cabin and galley(s) requirements (JAR-OPS 1.325 / 3.325)	x	x	x	x	x	
LO	State the commander responsibility regarding smoking on board (JAR-OPS 1.335 / 3.335)	x	x	x	x	x	
LO	State under which conditions a commander can commence or continue a flight regarding meteorological conditions (JAR-OPS 1.340-355 / 3.340-355)	x	x	x	x	x	
LO	State the commander responsibility regarding ice and other contaminants (JAR-OPS 1.345 / 3.345)	x	x	x	x	x	
LO	State the commander responsibility regarding fuel to be carried and in flight fuel management (JAR-OPS 1.350-375 + Appendix 1 / 3.310-375 + Appendix 1)	x	x	x	x	x	
LO	State the requirements regarding the use of supplemental oxygen (JAR-OPS 1.385 / 3.385)	x	x	x	x	x	
LO	State the ground proximity detection reactions (JAR-OPS 1.395 / 3.395)	x	x	x	x	x	
LO	State the commander responsibility regarding approach and landing (JAR-OPS 1.400-405 / 3.400-405)	x	x	x	x	x	
LO	State the circumstances under which a report shall be submitted (JAR-OPS 1.420 / 3.420)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
071 01 02 05	JAR-OPS Subpart E - All weather operations						
LO	State the operator's responsibility regarding aerodrome/heliport operating minima (JAR-OPS 1.430 + Appendix 1 + Appendix 2/ 3.430 + Appendix 1)	x		x			
LO	List the parameters to be considered in establishing the aerodrome operating minima (JAR-OPS 1.430 + Appendix 1 + Appendix 2/ 3.430 + Appendix 1)	x		x			
LO	Define the criteria to be taken into consideration for the classification of aeroplane (JAR-OPS 1.430 + Appendix 1 + Appendix 2)	x					
LO	Define the following terms : Circling, Low Visibility Procedures, Low Visibility Take-Off, Visual approach (JAR-OPS 1.435 / 3.435)	x		x			
LO	Define the following terms : Flight control system, Fail-passive flight control system, Fail-operational flight control system, Fail-operational hybrid landing system (JAR-OPS 1.435)	x					
LO	Define the following terms : Final Approach and Take-off Area (JAR-OPS 3.435)			x			
LO	State the general operating rules for low visibility operations (JAR-OPS 1.440 + Appendix 1 / 3.440 + Appendix 1)	x		x			
LO	Low visibility operations – Aerodrome/Heliport considerations (JAR-OPS 1.445 / 3.445)	x		x			
LO	State the training and qualification requirements for flight crew to conduct low visibility operations (JAR-OPS 1.450 + Appendix 1 / 3.450 + Appendix 1)	x		x			
LO	State the operating procedures for low visibility operations (JAR-OPS 1.455 + Appendix 1 / 3.455 + Appendix 1)	x		x			
LO	State the operator and commander's responsibilities regarding minimum equipment for low visibility operations (JAR-OPS 1.460 / 3.460)	x		x			
LO	VFR Operating Minima (JAR-OPS 1.465 + Appendix 1 / 3.465 + Appendix 1 + Appendix 2)	x		x			

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	Aerodrome Operating Minima : State under which conditions the commander can commence take-off (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State that take-off minima is expressed as visibility or RVR (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State the take-off RVR value depending on the facilities (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State the system minima for non precision approach (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State under which conditions a pilot can continue the approach below MDA/H or DA/H (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State the lowest minima for precision approach category 1 (including single pilot operations) (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State the lowest minima for precision approach category 2 operations (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State the lowest minima for precision approach category 3 operations (JAR-OPS Appendix 1 to 1.430)	x					
LO	Aerodrome Operating Minima : State the lowest minima for circling and visual approach (JAR-OPS Appendix 1 to 1.430 / Appendix 1 to 3.430)	x		x			
LO	Aerodrome Operating Minima : State the RVR value and cloud ceiling depending on the facilities (class 1, 2 and 3) (JAR-OPS Appendix 1 to 3.430)			x			
LO	Aerodrome Operating Minima : State under which conditions an Airborne Radar Approach can be performed and state the relevant minima (JAR-OPS Appendix 1 to 3.430)			x			
071 01 02 06	JAR-OPS Subpart K - Instruments and equipment						
LO	State which items do not require an equipment approval (JAR-OPS 1.630 / 3.630)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the requirements regarding spare fuses availability (JAR-OPS 1.635)	x	x				
LO	State the requirements regarding operating lights (JAR-OPS 1.640 / 3.640)	x	x	x	x	x	
LO	State the requirements regarding windshield wipers (JAR-OPS 1.645)	x	x				
LO	List the equipment for operations requiring a radio communication and/or radio navigation system (JAR-OPS 3.647)			x	x	x	
LO	List the minimum equipment required for day and night VFR flight (JAR-OPS 1.650-652 / 3.650-652)	x	x	x	x	x	
LO	List the minimum equipment required for IFR flight (JAR-OPS 1.652 / 3.652)	x		x			
LO	State the required equipment for single pilot operation under IFR (JAR-OPS 1.655 / 3.655)	x		x			
LO	State the requirements for an altitude alert system (JAR-OPS 1.660)	x	x				
LO	State the requirements for radio altimeters (JAR-OPS 3.660)			x	x	x	
LO	State the requirements for GPWS (JAR-OPS 1.665)	x	x				
LO	State the requirements for ACAS (JAR-OPS 1.668)	x	x				
LO	State the conditions under which an aircraft must be fitted with a weather radar (JAR-OPS 1.670 / 3.670)	x	x	x	x	x	
LO	State the requirement for operations in icing conditions (JAR-OPS 1.675 / 3.675)	x	x	x	x	x	
LO	State the conditions under which a crew member interphone system and public address system are mandatory (JAR-OPS 1.685-690-695 / 3.685-690-695)	x	x	x	x	x	
LO	State the circumstances under which a cockpit voice recorder is compulsory (JAR-OPS 1.700-705-710 / 3.700-705)	x	x	x	x	x	
LO	State the rules regarding the location, construction, installation and operation of cockpit voice recorders (JAR-OPS 1.700-705-710 / 3.700-705)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the circumstances under which a flight data recorder is compulsory (JAR-OPS 1.715-720-725 / 3.715-720)	x	x	x	x	x	
LO	State the rules regarding the location, construction, installation and operation of flight data recorders (JAR-OPS 1.715-720-725 / 3.715-720)	x	x	x	x	x	
LO	State the requirements about seats, seat safety belts, harnesses and child restraint devices (JAR-OPS 1.730 / 3.730)	x	x	x	x	x	
LO	State the requirements about Fasten Seat belt and No Smoking signs (JAR-OPS 1.731 / 3.731)	x	x	x	x	x	
LO	State the requirements regarding internal doors and curtains (JAR-OPS 1.735)	x	x				
LO	State the requirements regarding First-Aid kits (JAR-OPS 1.745 / 3.745)	x	x	x	x	x	
LO	State the requirements regarding Emergency medical kits and First-aid oxygen (JAR-OPS 1.755-760)	x	x				
LO	Detail the rules regarding the carriage and use of supplemental oxygen for passengers and crew (JAR-OPS 1.770 + Appendix 1 / 1.775 + Appendix 1 / 3.775 + Appendix 1)	x	x	x	x	x	
LO	Detail the rules regarding crew protective breathing equipment (JAR-OPS 1.780)	x	x				
LO	Describe the minimum number, type, and location of hand fire extinguishers (JAR-OPS 1.790 / 3.790)	x	x	x	x	x	
LO	Describe the minimum number and location of crash axes and crowbars (JAR-OPS 1.795)	x	x				
LO	Specify the colors and markings used to indicate break-in points (JAR-OPS 1.800 / 3.800)	x	x	x	x	x	
LO	State the requirements for means of emergency evacuation (JAR-OPS 1.805)	x	x				
LO	State the requirements for megaphones (JAR-OPS 1.810 / 3.810)	x	x	x	x	x	
LO	State the requirements for emergency lighting (JAR-OPS 1.815 / 3.815)	x	x	x	x	x	
LO	State the requirements for an emergency locator transmitter (JAR-OPS 1.820 / 3.820)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the requirements for life jackets, life-rafts and survival ELTs (JAR-OPS 1.825-830 / 3.825-830)	x	x	x	x	x	
LO	State the requirements for crew survival suit (JAR-OPS 3.827)			x	x	x	
LO	State the requirements for survival equipment (JAR-OPS 1.835 / 3.835)	x	x	x	x	x	
LO	State additional requirements for helicopters operating to or from helidecks located in a hostile sea area (JAR-OPS 3.837)			x	x	x	
LO	State the requirements for an emergency flotation equipment (JAR-OPS 3.843)			x	x	x	
071 01 02 07	JAR-OPS Subpart L - Communication and navigation equipment						
LO	Explain the general requirements for communication and navigation equipment (JAR-OPS 1.845 / 3.845)	x	x	x	x	x	
LO	State that the radio communication equipment must provide communications on 121.5 MHz (JAR-OPS 1.850 / 3.850)	x	x	x	x	x	
LO	State the requirements regarding the provision of an audio selector panel (JAR-OPS 1.855 / 3.855)	x	x	x	x	x	
LO	List the requirements for radio equipment when flying under VFR by reference to visual landmarks (JAR-OPS 1.860 / 3.860)	x	x	x	x	x	
LO	List the requirements for communications and navigation equipment when operating under IFR or under VFR over routes not navigated by reference to visual landmarks (JAR-OPS 1.865 / 3.865)	x	x	x	x	x	
LO	State the equipment required to operate within RVSM airspace (JAR-OPS 1.872)	x	x				
071 01 02 08	JAR-OPS Subpart M - Aeroplane/Helicopter Maintenance						
LO	State the general requirements (JAR-OPS 1.875 / 3.875)	x	x	x	x	x	
LO	Define the terms : Pre-flight inspection, Approved standard, Approved by the authority (JAR-OPS 1.880 / 3.880)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	Explain the operator responsibility in ensuring the aircraft airworthiness and equipment serviceability (JAR-OPS 1.890 / 3.890)	x	x	x	x	x	
LO	State the general requirements for ensuring that maintenance is carried out to an appropriate standard (JAR-OPS 1.895 / 3.895)	x	x	x	x	x	
LO	Describe the operation of a maintenance quality system (JAR-OPS 1.900 / 3.900)	x	x	x	x	x	
LO	Describe the operator's responsibility regarding an aircraft maintenance program (JAR-OPS 1.910 / 3.910)	x	x	x	x	x	
LO	List the requirements for maintenance records (JAR-OPS 1.920 / 3.920)	x	x	x	x	x	
071 01 02 09	JAR-OPS Subpart N - Flight crew						
LO	State the requirement regarding crew composition and in flight relief (JAR-OPS 1.940 / 3.940)	x	x	x	x	x	
LO	State the requirement for conversion training and checking (JAR-OPS 1.945 / 3.945)	x	x	x	x	x	
LO	State the requirement for differences training and familiarization training (JAR-OPS 1.950 / 3.950)	x	x	x	x	x	
LO	State the conditions for upgrade to commander from co-pilot (JAR-OPS 1.955 / 3.955)	x	x	x	x	x	
LO	State the minimum qualification requirements to operate as a commander (JAR-OPS 1.960 / 3.960)	x	x	x	x	x	
LO	State the requirement for recurrent training and checking (JAR-OPS 1.965 / 3.965)	x	x	x	x	x	
LO	State the requirement for a pilot to operate in either pilot's seat (JAR-OPS 1.968 / 3.968)	x	x	x	x	x	
LO	State the minimum recent experience for commander and pilots (JAR-OPS 1.970 / 3.970)	x	x	x	x	x	
LO	Specify the route and aerodrome / heliport qualification required for a commander or a pilot flying (JAR-OPS 1.975 / 3.975)	x	x	x	x	x	
LO	State the requirement to Operate on more than one type or variant (JAR-OPS 1.980 / 3.980)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that when a flight crew member operates both helicopters and aeroplanes , the operations are limited to one type of each (JAR-OPS 1.981)	x	x				
LO	State the training records requirement (JAR-OPS 1.985 / 3.985)	x	x	x	x	x	
071 01 02 10	JAR-OPS Subpart O - Cabin crew/Crew members other than flight crew						
LO	State who is regarded as cabin crew for application of this subpart (JAR-OPS 1.988 / 3.988)	x	x	x	x	x	
LO	Detail the requirements regarding cabin crew members (JAR-OPS 1.990 / 3.990)	x	x	x	x	x	
LO	State the acceptability criteria (JAR-OPS 1.995 / 3.995)	x	x	x	x	x	
LO	State the requirements regarding senior cabin crew members (JAR-OPS 1.1000 / 3.1000)	x	x	x	x	x	
LO	State the conditions to operate on more than one type or variant (JAR-OPS 1.1030 / 3.1030)	x	x	x	x	x	
071 01 02 11	JAR-OPS Subpart P - Manuals, logs and records						
LO	Explain the general rules for operations manual (JAR-OPS 1.1040 / 3.1040)	x	x	x	x	x	
LO	Explain the structure and subject headings of the operations manual (JAR-OPS 1.1045 + Appendix 1 / 3.1045 + Appendix 1)	x	x	x	x	x	
LO	State the requirements for a journey log book (JAR-OPS 1.1055 / 3.1055)	x	x	x	x	x	
LO	Describe the requirements regarding the operational flight plan (JAR-OPS 1.1060 / 3.1060)	x	x	x	x	x	
LO	State the requirements for document storage periods (JAR-OPS 1.1065 + Appendix 1 / 3.1065 + Appendix 1)	x	x	x	x	x	
071 01 02 12	JAR-OPS Subpart Q - Flight and duty time limitations and rest requirements (JAR-OPS 1.1030 / 3.1030)						
LO	Reserved	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
071 01 03 00	Long-range flights						
071 01 03 01	Flight management						
LO	Navigation planning procedures (JAR-OPS 1.240-241) - Describe the operator's responsibilities concerning ETOPS routes - List the factors to be considered by the commander before commencing the flight	x					
LO	Selection of a route - Describe the meaning of the term "adequate aerodrome" (JAR-OPS 1.220 + IEM) - Describe the limitations imposed by JAR-OPS on extended range operations with two-engined aeroplanes with and without ETOPS approval (JAR-OPS 1.245-246)	x					
LO	Selection of cruising altitude (MNPSA Manual Chapter 4) - Specify appropriate cruising levels for normal long range IFR flights and for those operating on the North Atlantic Operational Track Structure	x					
LO	Selection of alternate aerodrome (JAR-OPS 1.225 / 1.295-297) - State the circumstances in which a take-off alternate must be selected - State the maximum flight distance of a take-off alternate for : two-engined aeroplane, ETOPS approved aeroplane, three or four engined aeroplane - State the factors to be considered in the selection of a take-off alternate - State when a destination alternate need not be selected - State when two destination alternates must be selected - State the factors to be considered in the selection of a destination alternate aerodrome - State the factors to be considered in the selection of an en-route alternate aerodrome	x					
LO	Minimum time routes - Define, construct, interpret minimum time route (route giving the shortest flight time from departure to destination adhering to all ATC and airspace restrictions)	x					
071 01 03 02	Transoceanic and polar flight						

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	(ICAO Doc 7030) - Describe the possible indications of navigation system degradation - Describe by what emergency means course and INS can be cross checked in the case of : 3 navigation systems, 2 navigation systems - Interpret VOR, NDB, VOR/DME information to calculate aircraft position and aircraft course - Describe the general ICAO procedures applicable in North Atlantic airspace (NAT) if the aircraft is unable to continue the flight in accordance with its air traffic control clearance - Describe the ICAO procedures applicable in North Atlantic Airspace (NAT) in case of radio communication failure - Describe the recommended initial action if an aircraft is unable to obtain a revised air traffic control clearance - Describe the subsequent action for : aircraft able to maintain assigned flight level, aircraft unable to maintain assigned flight level - Determination of tracks and courses for random routes in NAT - Specify the method by which planned tracks are defined (by latitude and longitude) in the NAT region : when operating predominately in an east-west direction south of 70°N, when operating predominately in an east-west direction north of 70°N - State the maximum flight time recommended between significant points - Specify the method by which planned tracks are defined for flights operating predominantly in a north-south direction - Describe how the desired route must be specified in the air traffic control flight plan	x					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	<p>Polar navigation</p> <p>Terrestrial magnetism characteristics in polar zones</p> <ul style="list-style-type: none"> - Explain why magnetic compasses become unreliable or useless in polar zones - State in which area VORs are referenced to true north <p>Specific problems of polar navigation</p> <ul style="list-style-type: none"> - Describe the general problems of polar navigation - Describe what precautions can be taken when operating in the area of compass unreliability as a contingency against INS failure - Describe how grid navigation can be used in conjunction with a Directional Gyro (DG) in polar areas and: <ul style="list-style-type: none"> - Use Polar Stereographic chart and grid co-ordinates to solve polar navigation problems - Use Polar Stereographic chart and grid co-ordinates to calculate navigation data - Use INS information to solve polar navigation problems - Define, calculate: Transport precession, earth rate (astronomic) precession, convergence factor - Describe the effect of using a free gyro to follow a given course - Describe the effect of using a gyro compass with hourly rate corrector unit to follow a given course - Convert grid navigation data into true navigation data, into magnetic navigation data, into compass navigation data - Justify the selection of a different "north" reference at a given position - Calculate the effects of gyro drift due to Earth rotation ($15^\circ / h \times \sin Lm$) 	x					
071 01 03 03	MNPS Airspace						
LO	<p>Geographical limits : State the lateral dimensions (in general terms) and vertical limits of MNPS airspace (ICAO Doc 7030 NAT/RAC-2 3.2.1)</p>	x					
	<p>State that operators must ensure that crew follow NAT MNPSA Operations Manual procedures (ICAO Doc 7030 NAT/RAC-2 3.2.3)</p>						

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	Define the following abbreviations : MNPS, MNPSA, OCA, OTS, PRM, PTS, RVSM, LRNS, MASPS, SLOP, WATRS (MNPSA Manual Glossary of terms)	x					
LO	Aircraft System Requirements (MNPSA Manual Chap 1) <ul style="list-style-type: none"> - Navigation requirements for unrestricted MNPS airspace operations - Routes for use by aircraft not equipped with two LRNSs : routes for aircraft with only one LRNS, routes for aircraft with short-range navigation equipment only - Performance Monitoring 	x					
LO	Organised Track System (MNPSA Manual Chap 2) <ul style="list-style-type: none"> - Construction of the organised track system (OTS) - The NAT track message - OTS changeover periods 	x					
LO	Other Routes and Route Structures Within or Adjacent to NAT MNPS Airspace (MNPSA Manual Chap 3) <ul style="list-style-type: none"> - Other routes within NAT MNPS airspace - Route structures adjacent to NAT MNPS airspace : North american routes (NARs), Canadian domestic track systems, Routes between north america and the caribbean area 	x					
LO	Flight Planning (MNPSA Manual Chap 4) <ul style="list-style-type: none"> - All flights should plan to operate on great circle tracks joining successive significant waypoints - During the hours of validity of the OTS, operators are encouraged to flight plan as follows : in accordance with the OTS or along a route to join or leave an outer track of the OTS or on a random route to remain clear of the OTS - Flight levels available on OTS tracks during OTS periods - Flight levels on random tracks or outside OTS periods (Appropriate Direction Levels) 	x					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	<p>Oceanic ATC Clearances (MNPSA Manual Chap 5)</p> <ul style="list-style-type: none"> - It is recommended that pilots should request their Oceanic Clearance at least 40 minutes prior to the Oceanic entry point ETA - The pilot should notify the OAC of the maximum acceptable flight level possible at the boundary - At some airports situated close to oceanic boundaries, the Oceanic Clearance must be obtained before departure - If an aircraft, which would normally be RVSM and/or MNPS approved, encounters, whilst en route to the NAT Oceanic Airspace, a critical in-flight equipment failure, or at dispatch is unable to meet the MEL requirements for RVSM or MNPS approval on the flight, then the pilot must advise ATC at initial contact when requesting Oceanic Clearance. - After obtaining and reading back the clearance, the pilot should monitor the forward estimate for oceanic entry, and if this changes by 3 minutes or more, should pass a revised estimate to ATC. - Pilots should pay particular attention when the issued clearance differs from the Flight Plan as a significant proportion of navigation errors investigated in the NAT involve an aircraft which has followed its Flight Plan rather than its differing clearance. - If the entry point of the oceanic route on which the flight is cleared differs from that originally requested and/or the oceanic flight level differs from the current flight level, the pilot is responsible for requesting and obtaining the necessary domestic re-clearance - There are three elements to an Oceanic Clearance: route, Mach Number and flight level. These elements serve to provide for the three basic elements of separation: lateral, longitudinal and vertical. 	x					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	<p>Communications and Position Reporting Procedures (MNPSA Manual Chap 6)</p> <p>HF Voice Communications</p> <ul style="list-style-type: none"> - Pilots communicate with OACs via aeradio stations staffed by communicators who have no executive ATC authority. Messages are relayed, from the ground station to the air traffic controllers in the relevant OAC for action. - Frequencies from the lower HF bands tend to be used for communications during night-time and those from the higher bands during day-time. - When initiating contact with an aeradio station the pilot should state the HF frequency in use. <p>SATCOM Voice Communications</p> <ul style="list-style-type: none"> - Since oceanic traffic typically communicate with ATC through aeradio facilities, a SATCOM call made due to unforeseen inability to communicate by other means should be made to such a facility rather than the ATC Centre, unless the urgency of the communication dictates otherwise. <p>An air-to-air VHF frequency has been established for world-wide use when aircraft are out of range of VHF ground stations which utilise the same or adjacent frequencies. This frequency, 123.45 MHz, is intended for pilot-to-pilot exchanges of operationally significant information.</p> <p>Standard position report message type.</p> <p>Some aircraft flying in the NAT are required to report MET observations of wind speed and direction plus outside air temperature. Any turbulence encountered should be included in these reports.</p> <p>General guidance for aircraft operating in, or proposing to operate in, the NAT Region, which experience a communications failure : General Provisions, On-board HF Equipment Failure, Poor HF Propagation Conditions, Loss of HF Communications Prior to Entry into the NAT, Loss of HF Communications after Entering the NAT.</p> <p>All turbine-engined aeroplanes having a maximum certificated take-off mass exceeding 5,700 kg or authorized to carry more than 19 passengers are required to carry and operate ACAS II in the NAT Region.</p>	x					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	<p>Application of Mach Number Technique (MNPSA Manual Chap 7)</p> <ul style="list-style-type: none"> - Practical experience has shown that when two or more turbojet aircraft, operating along the same route at the same flight level, maintain the same Mach Number, they are more likely to maintain a constant time interval between each other than when using other methods. - Pilots must ensure that any required corrections to indicated Mach are taken into account when complying with the True Mach number specified in the ATC clearance. - After leaving oceanic airspace pilots must maintain their assigned Mach Number in domestic controlled airspace unless and until the appropriate ATC unit authorises a change. 	x					
LO	<p>MNPS Flight Operation & Navigation Procedures (MNPSA Manual Chap 8)</p> <ul style="list-style-type: none"> - The Pre-flight Procedures for any NAT MNPS flight must include a UTC time check and resynchronisation of the aircraft master clock. - State the use of the Master Document - State the requirements for position plotting - PRE-FLIGHT PROCEDURES : alignment of IRS, Satellite Navigation Availability Prediction Programme for flights using GNSS LRNS, loading of initial waypoints, flight plan check. - IN FLIGHT PROCEDURES : ATC Oceanic Clearance, entering the MNPS Airspace and Reaching an Oceanic Waypoint, routine monitoring - Strategic Lateral Offset Procedure (SLOP) : state that along a route or track there will be three positions that an aircraft may fly : centreline or one or two miles right. 	x					
LO	<p>RVSM Flight in MNPS Airspace (MNPSA Manual Chap 9)</p> <ul style="list-style-type: none"> - State the altimeter cross-check to be performed before MNPS airspace entry - State the altimeter cross-check to be performed into the MNPS airspace - In NAT MNPS Airspace pilots always have to report to ATC immediately on reaching any new cruising level.. - Crews should report when a 300 ft or more deviation occurs. 	x					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	Navigation System Degradation or Failure (MNPSA Manual Chap 10) For this part consider aircraft equipped with only two operational LRNSs. State requirements for the following situations : <ul style="list-style-type: none"> - One System Fails Before Take-Off - One System Fails Before the OCA Boundary is Reached - One System Fails After the OCA Boundary is Crossed - The Remaining System Fails After Entering MNPS Airspace 	x					
LO	Special Procedures for In-Flight Contingencies (MNPSA Manual Chap 11) General <ul style="list-style-type: none"> - Until a revised clearance is obtained the specified NAT in-flight contingency procedures should be carefully followed. - The general concept of these NAT in-flight contingency procedures is, whenever operationally feasible, to offset from the assigned route by 15 NM and climb or descend to a level which differs from those normally used by 500 ft if below FL410 or by 1000 ft if above FL410. - State factors which may affect the direction of turn : direction to an alternate airport, terrain clearance, levels allocated on adjacent routes or tracks and any known SLOP off sets adopted by other nearby traffic. Deviations around severe weather <ul style="list-style-type: none"> - State that if the deviation is to be greater than 10NM the assigned flight level must be changed by +/- 300 ft depending on the followed track and the direction of the deviation (table 1) 	x					
071 01 03 04	ETOPS						
LO	State that ETOPS approval is part of an AOC (JAR-OPS 1.175 Appendix 1)	x					
LO	State that prior to conducting an ETOPS flight, an operator shall ensure that a suitable ETOPS en-route alternate is available, within either the approved diversion time or a diversion time based on the MEL generated serviceability status of the aeroplane, whichever is shorter. (JAR-OPS 1.246)	x					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the requirements for take-off alternate. (JAR-OPS 1.295)	x					
LO	State the planning minima for ETOPS en-route alternate. (JAR-OPS 1.297)	x					
071 02 00 00	SPECIAL OPERATIONAL PROCEDURES AND HAZARDS (GENERAL ASPECTS)						
071 02 01 00	Operations Manual						
071 02 01 01	Operating procedures						
LO	State that all non type-related operational policies, instructions and procedures needed for a safe operation are included in the A part of the Operations Manual (JAR-OPS 1.1045 / 3.1045)	x	x	x	x	x	
LO	State that the following items are included into the A part : De-icing and Anti-icing on the Ground, Adverse and potentially hazardous atmospheric conditions, Wake Turbulence, Incapacitation of crew members, Use of the Minimum Equipment and Configuration Deviation List(s), Security, Handling of accidents and occurrences (JAR-OPS 1.1045 + IEM / 3.1045 + IEM)	x	x	x	x	x	
LO	State that the following items are included into the A part : Altitude alerting system procedures, Ground Proximity Warning System procedures, Policy and procedures for the use of TCAS/ACAS (JAR-OPS 1.1045 + IEM)	x	x				
LO	State that the following items are included into the A part : Rotor downwash (JAR-OPS 3.1045 + IEM)			x	x	x	
LO	Define the following terms : Commencement of flight, Inoperative, MEL, MMEL, Rectification interval (JAR-MMEL/MEL 005)	x	x	x	x	x	
LO	Define the limits of MEL applicability (JAR-MMEL/MEL 001 + ACJ)	x	x	x	x	x	
LO	Identify the responsibilities of the Operator and the Authority with regard to the MEL and MMEL (JAR-OPS 1.030 / 3.030)	x	x	x	x	x	
LO	State the responsibilities of the crew members with regard to MEL (JAR-OPS 1.085 / 3.085)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State the responsibilities of the commander with regard to MEL (JAR-OPS 1.290 / 3.290)	x	x	x	x	x	
071 02 01 02	Aeroplane/Helicopter operating matters – type related						
LO	State that all type-related instructions and procedures needed for a safe operation are included in the B part of the Operations Manual. They will take account of any differences between types, variants or individual aircrafts used by the operator. (JAR-OPS 1.1045 / 3.1045)	x	x	x	x	x	
LO	State that the following items are included into the B part : Abnormal and emergency procedures, Configuration Deviation List, Minimum Equipment List, Emergency evacuation procedures (JAR-OPS 1.1045 + IEM)	x	x				
LO	State that the following items are included into the B part : Emergency procedures, Configuration Deviation List, Minimum Equipment List, Emergency evacuation procedures (JAR-OPS 3.1045 + IEM)			x	x	x	
071 02 02 00	Icing conditions	x	x	x	x	x	
071 02 02 01	On ground de-icing/anti-icing procedures, types of de-icing/anti-icing fluids						
LO	Define the following terms : Anti-icing, De-icing, One-step de-icing/anti-icing, Two-step de-icing/anti-icing, Holdover time. (ICAO Doc 9640 Glossary)	x	x				
LO	Define the following weather conditions : Drizzle, Fog, Freezing fog, Freezing drizzle, Freezing rain, Frost, Rain, Rime, Slush, Snow, Dry snow, Wet snow. (ICAO Doc 9640 Glossary)	x	x	x	x	x	
LO	Describe "The clean aircraft concept" as presented in the relevant chapter of ICAO Doc 9640 (ICAO Doc 9640 Chap 2)	x	x				
LO	List the types of de-icing/anti-icing fluids available. (ICAO Doc 9640 Chap 4)	x	x	x	x	x	
LO	State procedure to be followed when an aeroplane has exceeded the holdover time (ICAO Doc 9640 Chap 4)	x	x				
LO	Interpret the fluid holdover time tables and list the factors which can reduce the fluid protection time. (ICAO Doc 9640 Chap 5 + Attachment tables)	x	x				

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that the pre-take-off check, which is the responsibility of the pilot-in-command, ensures that the critical surfaces of the aeroplane are free of ice, snow, slush or frost just prior to take-off. This check shall be accomplished as close to the time of take-off as possible and is normally made from within the aeroplane by visually checking the wings. (ICAO Doc 9640 Chap 6)	x	x				
LO	State that an aircraft has to be treated symmetrically. (ICAO Doc 9640 Chap 11)	x	x				
LO	State that an operator shall establish procedures to be followed when ground de-icing and anti-icing and related inspections of the aeroplane(s) are necessary. (JAR-OPS 1.345 / 3.345)	x	x	x	x	x	
LO	State that a commander shall not commence take-off unless the external surfaces are clear of any deposit which might adversely affect the performance and/or controllability of the aircraft except as permitted in the Flight Manual. (JAR-OPS 1.345 / 3.345)	x	x	x	x	x	
071 02 02 02	Procedure to apply in case of performance deterioration, on ground/in flight						
LO	State that the effects of icing are wide-ranging, unpredictable and dependent upon individual aeroplane design. The magnitude of these effects is dependent upon many variables, but the effects can be both significant and dangerous. (ICAO Doc 9640 Chap 1)	x	x	x	x	x	
LO	State that in icing conditions, for a given speed and a given angle of attack, wing lift can be reduced by as much as 30 percent and drag increased by up to 40 percent. State that these changes in lift and drag will significantly increase stall speed, reduce controllability and alter flight characteristics. (ICAO Doc 9640 Chap 1)	x	x	x	x	x	
LO	State that ice on critical surfaces and on the airframe may also break away during take-off and be ingested into engines, possibly damaging fan and compressor blades. (ICAO Doc 9640 Chap 1)	x	x	x	x	x	
LO	State that ice forming on pitot tubes and static ports or on angle of attack vanes may give false altitude, airspeed, angle of attack and engine power information for air data systems. (ICAO Doc 9640 Chap 1)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that ice, frost and snow formed on the critical surfaces on the ground can have a totally different effect on aircraft flight characteristics than ice formed in flight. (ICAO Doc 9640 Chap 1)	x	x	x	x	x	
LO	State that flight in known icing conditions is subject to limitations found in the B part of the Operations Manual. (JAR-OPS 1.1045 Appendix 1 / 3.1045 Appendix 1)	x	x	x	x	x	
LO	State where procedures and performances regarding flight in expected or actual icing conditions are located. (JAR-OPS 1.346 ACJ / 3.346 ACJ)	x	x	x	x	x	
071 02 03 00	Bird strike risk and avoidance						
LO	State that presence of birds constituting a potential hazard to aircraft operations is part of pre-flight information. (ICAO Annex 15 - Chap 8)	x	x	x	x	x	
LO	State that information concerning the presence of birds observed by aircrews is made available to the aeronautical information service for such distribution as the circumstances necessitate. (ICAO Annex 15 - Chap 8)	x	x	x	x	x	
LO	State that AIP ENR 5.6 contains informations regarding bird migrations. (ICAO Annex 15 - Appendix 1)	x	x	x	x	x	
LO	State significant data regarding birds strike contained in ICAO Doc 9137. (ICAO Doc 9137 - Part 3 - 1.1.6)	x	x	x	x	x	
LO	List incompatible land use around airports. (ICAO Doc 9137 - Part 3 - 10.4)	x	x	x	x	x	
LO	Define the commander's responsibilities regarding the reporting of bird hazards and bird strikes. (JAR-OPS 1.420 / 3.420)	x	x	x	x	x	
071 02 04 00	Noise abatement						
071 02 04 01	Noise abatement procedures						
LO	Define the operator responsibilities regarding establishment of noise abatement procedures. (JAR-OPS 1.235 / 3.235)	x	x	x	x	x	
LO	State the main purpose of NADP 1 and NADP 2. (ICAO Doc 8168 - Vol 1 - Part V - 3.1.1)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that the pilot-in-command has the authority to decide not to execute a noise abatement departure procedure if conditions preclude the safe execution of the procedure. (ICAO Doc 8168 - Vol 1 - Part V - 3.2.1.3)	x	x	x	x	x	
071 02 04 02	Influence of the flight procedure (departure, cruise, approach)						
LO	List the main parameters for NADP 1 and NADP 2 (ie : speeds, heights, etc...). (ICAO Doc 8168 - Vol 1 - Part V - Appendix to chapter 3)	x	x				
LO	State that a runway lead-in lighting system should be provided where it is desired to provide visual guidance along a specific approach path for purposes of noise abatement. (ICAO Annex 14 - Vol 1 - 5.3.7.1 / Vol 2 - 5.3.4.1)	x	x	x	x	x	
LO	State that detailed information about noise abatement procedures is to be found into the AD 2 and 3 of the AIP. (ICAO Annex 15 Appendix 1)	x	x	x	x	x	
071 02 04 03	Influence by the pilot (power setting, low drag)						
LO	List the adverse operating conditions under which noise abatement procedures in the form of reduced power take-off should not be required. (ICAO Doc 8168 - Vol 1 - Part V - 3.2.2)	x	x				
LO	List the adverse operating conditions under which noise abatement procedures during approach should not be required. (ICAO Doc 8168 - Vol 1 - Part V - 3.4.4)	x	x				
LO	State the rule regarding use of reverse thrust on landing (ICAO Doc 8168 - Vol 1 - Part V - 3.5)	x	x				
071 02 04 04	Influence by the pilot (power setting, track of helicopter)						
LO	List the adverse operating conditions under which noise abatement procedures in the form of reduced power take-off should not be required. (ICAO Doc 8168 - Vol 1 - Part V - 3.2.2)			x	x	x	
071 02 05 00	Fire/smoke						
071 02 05 01	Carburettor fire						
LO	List the actions to be taken in the event of a carburetor fire	x	x				

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
071 02 05 02	Engine fire						
LO	List the actions to be taken in the event of an engine fire	x	x				
071 02 05 03	Fire in the cabin, cockpit, cargo compartment						
LO	Identify the different types of extinguishant and the type of fire on which each one may be used	x	x				
LO	Describe the precautions to be considered in the application of fire extinguishant	x	x				
LO	Identify the appropriate hand held extinguishers to be uses in the cockpit, the passenger cabin and toilets, the cargo compartments	x	x				
071 02 05 04	Smoke in the cockpit and cabin						
LO	List the actions to be taken in the event of smoke in the cockpit or in the cabin	x	x				
071 02 05 05	Actions in case of overheated brakes						
LO	Describe the problems and safety precautions following overheated brakes after landing or a rejected take-off	x	x				
071 02 06 00	Decompression of pressurised cabin						
071 02 06 01	Slow decompression						
LO	Indicate how to detect a slow decompression or an automatic pressurisation system failure	x	x				
LO	Describe the actions required following a slow decompression	x	x				
071 02 06 02	Rapid and explosive decompression						
LO	Indicate how to detect a rapid or an explosive decompression	x	x				
071 02 06 03	Dangers and action to be taken						
LO	Describe the actions required following a rapid or explosive decompression	x	x				

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	Describe the effects on aircraft occupants of a slow decompression and a rapid or explosive decompression	x	x				
071 02 07 00	Wind shear and microburst						
071 02 07 01	Effects and recognition during departure and approach						
LO	Define the meaning of the term "low level windshear" (ICAO Circular 186 - Chapter 1)	x	x	x	x	x	
LO	Define : Vertical windshear, Horizontal windshear, Updraft and downdraft windshear (ICAO Circular 186 - Chapter 2)	x	x	x	x	x	
LO	Identify the meteorological phenomena associated with windshear (ICAO Circular 186 - Chapter 3)	x	x	x	x	x	
LO	Explain recognition of windshear (ICAO Circular 186 - Chapter 4)	x	x	x	x	x	
071 02 07 02	Actions to avoid and actions taken during encounter	x	x	x	x	x	
LO	Describe the effects of and actions required when encountering windshear, at take-off and approach (ICAO Circular 186 - Chapter 4)	x	x	x	x	x	
LO	Describe the precautions to be taken when windshear is suspected, at take-off and approach (ICAO Circular 186 - Chapter 4)	x	x	x	x	x	
LO	Describe the effects of and actions required following entry into a strong downdraft windshear (ICAO Circular 186 - Chapter 4)	x	x	x	x	x	
LO	Describe a microburst and its effects (ICAO Circular 186 - Chapter 4)	x	x	x	x	x	
071 02 08 00	Wake turbulence						
071 02 08 01	Cause						
LO	Define the term "wake turbulence" (ICAO Doc 4444 4.9)	x	x	x	x	x	
LO	Describe tip vortices circulation (ICAO Doc 9426 Part II)	x	x	x	x	x	
LO	Explain when vortex generation begins and ends (ICAO Doc 9426 Part II)	x	x	x	x	x	

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See Appendix 1 to JAR-FCL 1.470 and JAR-FCL 2.470

Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	Describe vortex circulation on the ground with and without crosswind (ICAO Doc 9426 Part II)	x	x	x	x	x	
071 02 08 02	List of relevant parameters						
LO	List the three main factors which combine to give the strongest vortices (heavy, clean, slow) (ICAO Doc 9426 Part II)	x	x	x	x	x	
LO	Describe the wind conditions which are worst for wake turbulence near the ground (ICAO Doc 9426 Part II)	x	x	x	x	x	
071 02 08 03	Actions taken when crossing traffic, during take-off and landing						
LO	Describe the actions taken to avoid wake turbulence, specially separations (ICAO Doc 4444 5)	x	x	x	x	x	
071 02 09 00	Security (unlawful events)						
071 02 09 01	ICAO Annex 17						
LO	Give the following definitions : Aircraft security check, screening, security, security restricted area, unidentified baggage (ICAO Annex 17 1)	x	x	x	x	x	
LO	Give the objectives of security (ICAO Annex 17 2.1)	x	x	x	x	x	
071 02 09 02	Use of SSR						
LO	Describe the commander's responsibilities concerning notifying the appropriate ATS unit (ICAO Annex 17 Attachment)	x	x	x	x	x	
LO	Describe the commander's responsibilities concerning operation of SSR (ICAO Annex 17 Attachment)	x	x	x	x	x	
LO	Describe the commander's responsibilities concerning departing from assigned track and/or cruising level (ICAO Annex 17 Attachment)	x	x	x	x	x	
LO	Describe the commander's responsibilities concerning action required or being requested by an ATS unit to confirm SSR code and ATS interpretation response (ICAO Annex 17 Attachment)	x	x	x	x	x	
071 02 09 03	JAR-OPS Subpart S - Security						

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State JAR-OPS requirement regarding training programs (JAR-OPS 1.1240 / 3.1240)	x	x	x	x	x	
LO	State JAR-OPS requirement regarding reporting acts of unlawful interference (JAR-OPS 1.1245 / 3.1245)	x	x	x	x	x	
LO	State JAR-OPS requirement regarding aircraft search procedures (JAR-OPS 1.1250 / 3.1250)	x	x	x	x	x	
071 02 10 00	Emergency and precautionary landings						
071 02 10 01	Definition						
LO	Define ditching, precautionary landing, emergency landing	x	x	x	x	x	
LO	Describe a ditching procedure	x	x	x	x	x	
LO	Describe a precautionary landing	x	x	x	x	x	
LO	Explain the factors to be considered when deciding to make a precautionary/emergency landing or ditching	x	x	x	x	x	
071 02 10 02	Cause						
LO	List some reasons that may require a ditching, a precautionary landing or an emergency landing.	x	x	x	x	x	
071 02 10 03	Passenger information						
LO	Describe the passenger briefing to be given before making a precautionary/emergency landing or ditching (including evacuation)	x	x	x	x	x	
071 02 10 04	Action after landing						
LO	Describe the actions and responsibilities of crew members after landing	x	x	x	x	x	
071 02 10 05	Evacuation						
LO	State that the aircraft must be stopped and the engine shut-down before launching an emergency evacuation.	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that evacuation procedures are to be found in the B part of the Operations Manual. (JAR-OPS 1.1045 Appendix 1 / 3.1045 Appendix 1)	x	x	x	x	x	
LO	State the CS25 requirements regarding evacuation procedures. (CS25-803 + Appendix J)	x	x				
071 02 11 00	Fuel jettisoning						
071 02 11 01	Safety aspects						
LO	State that an aircraft may need to dump fuel so as to reduce it's landing mass in order to effect a safe landing. (ICAO Doc 4444 15.5.3)	x	x				
LO	State that when an aircraft operating within controlled airspace needs to dump fuel, the flight crew shall coordinate with ATC the following : route to be flown, which, if possible, should be clear of cities and towns, preferably over water and away from areas where thunderstorms have been reported or are expected, the level to be used, which should be not less than 1 800 m (6 000 ft) and the duration of the fuel dumping. (ICAO Doc 4444 15.5.3)	x	x				
LO	State that flaps and slats may adversely affect fuel jettisoning. (EASA CS-25 1001)	x	x				
071 02 11 02	Requirements						
LO	State that a fuel jettisoning system must be installed on each aeroplane unless it is shown that the aeroplane meets some CS-25 climb requirements. (EASA CS-25 1001)	x	x				
LO	State that a fuel jettisoning system must be capable of jettisoning enough fuel within 15 minutes. (EASA CS-25 1001)	x	x				
071 02 12 00	Transport of dangerous goods						
071 02 12 01	ICAO Annex 18						
LO	Give the following definitions : Dangerous goods, Dangerous goods accident, Dangerous goods incident, Exemption, Incompatible, Packaging, UN number. (ICAO Annex 18 Chapter 1)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that detailed provisions for dangerous goods transportation are contained in the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284). (ICAO Annex 18 Chapter 2 2.2.1)	x	x	x	x	x	
LO	State that in case of an in-flight emergency, the pilot-in-command must inform the ATC of dangerous goods transportation (ICAO Annex 18 Chapter 9 9.5)	x	x	x	x	x	
071 02 12 02	Technical instructions (ICAO Doc 9284)						
LO	Explain the principle of compatibility and segregation (ICAO Doc 9284)	x	x	x	x	x	
LO	Explain the special requirements for loading of radioactive materials (ICAO Doc 9284)	x	x	x	x	x	
LO	Explain the use of the dangerous goods list (ICAO Doc 9284)	x	x	x	x	x	
LO	Identify the labels. (ICAO Doc 9284)	x	x	x	x	x	
071 02 12 03	JAR-OPS Subpart R - Transport of dangerous goods by air						
LO	State that dangerous goods transportation is subject to approval of the operator (JAR-OPS 1.1155 / 3.1155)	x	x	x	x	x	
LO	Identify articles and substances which would otherwise be classed as dangerous goods that are excluded from the provisions of the JAR-OPS Subpart R (JAR-OPS 1.1160 / 3.1160)	x	x	x	x	x	
LO	State that some articles and substances may be forbidden for air transportation (JAR-OPS 1.1165 / 3.1165)	x	x	x	x	x	
LO	State that packing must comply with the Technical Instruction specifications (JAR-OPS 1.1175 / 3.1175)	x	x	x	x	x	
LO	List the labelling and marking requirements (JAR-OPS 1.1180 / 3.1180)	x	x	x	x	x	
LO	List the Dangerous Goods Transport Document requirements (JAR-OPS 1.1185 / 3.1185)	x	x	x	x	x	
LO	List the Acceptance of Dangerous Goods requirements (JAR-OPS 1.1195 / 3.1195)	x	x	x	x	x	
LO	Explain the need of an inspection prior to loading on an aircraft (JAR-OPS 1.1200 / 3.1200)	x	x	x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that some dangerous goods are designated for carriage only on cargo aircrafts. (JAR-OPS 1.1210 / 3.1210)	x	x	x	x	x	
LO	State that accidents or incidents involving dangerous goods are to be reported. (JAR-OPS 1.1225 / 3.1225)	x	x	x	x	x	
LO	State that misdeclared or undeclared dangerous goods found in the baggages are to be reported. (JAR-OPS 1.1225 / 3.1225)	x	x	x	x	x	
071 02 13 00	Contaminated runways						
071 02 13 01	Kinds of contamination						
LO	Define a contaminated runway, a damp runway, a wet runway, a dry runway (JAR-OPS 1.480)	x	x				
LO	List the different types of contamination : damp, wet or water patches, rime or frost covered, dry snow, wet snow, slush, ice, compacted or rolled snow, frozen ruts or ridges (ICAO Annex 15 Appendix 2)	x	x				
LO	Give the definitions of the various types of snow (ICAO Annex 15 Appendix 2)	x	x				
071 02 13 02	Estimated surface friction, friction coefficient						
LO	Identify the difference between friction coefficient and estimated surface friction (ICAO Annex 15 Appendix 2)	x	x				
LO	State that when friction coefficient is 0.40 or higher the expected braking action is good (ICAO Annex 15 Appendix 2)	x	x				
071 02 13 03	Hydroplaning principles and effects						
LO	Define the different types of hydroplaning (NASA TM-85652 / Tire friction performance / p 6 to 9)	x	x				
LO	Compute the 2 dynamic hydroplaning speed using the following formulas : Spin-down speed (Rotating tire) (kt) = 9 square root (Pressure in PSI) Spin-up speed (Non-rotating tire) (kt) = 7.7 square root (Pressure in PSI) (NASA TM-85652 / Tire friction performance / p 8)	x	x				

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
LO	State that the spin-up speed, rather than the spin-down speed, represents the actual tire situation for aircraft touchdown on flooded runways. (NASA TM-85652 / Tire friction performance / p 8)	x	x				
071 02 13 04	Procedures						
LO	State that some wind limitations may apply in case of contaminated runways. Those limitations are to be found in the B part of the Operations Manual - Limitations (JAR-OPS 1.1045 Appendix 1)	x	x				
LO	State that the procedures associated with take-off and landing on contaminated runways are to be found in the B part of the Operations Manual – Normal procedures (JAR-OPS 1.1045 Appendix 1)	x	x				
LO	State that the performances associated with contaminated runways are to be found in the B part of the Operations Manual – Performance (JAR-OPS 1.1045 Appendix 1)	x	x				
071 02 13 05	Snowtam						
LO	Interpret from a snowtam the contamination and braking action on a runway	x	x				
071 02 14 00	Rotor downwash						
071 02 14 01	Describe downwash						
LO	Describe the downwash			x	x	x	
071 02 14 02	Effects						
LO	Explain the effects on : Soil erosion, Water dispersal and spray, Recirculation, Damage to property, Loose articles			x	x	x	
071 02 15 00	Operation influence by meteorological conditions (Helicopter)						
071 02 15 01	White out/sand/dust						
LO	Give the definition of white out			x	x	x	
LO	Describe loss of spatial orientation			x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
	LO Describe take-off and landing techniques			x	x	x	
071 02 15 02	Strong winds						
	LO Describe blade sailing			x	x	x	
	LO Describe wind operating envelopes			x	x	x	
	LO Describe vertical speed problems			x	x	x	
071 02 15 03	Mountain environment						
	LO Describe constraints associated with mountain environment			x	x	x	
071 03 00 00	EMERGENCY PROCEDURES (HELICOPTER)						
071 03 01 00	Influence by technical problems						
071 03 01 01	Engine failure						
	LO Describe techniques for failure in : hover, climb, cruise, approach			x	x	x	
071 03 01 02	Fire in cabin/cockpit/engine						
	LO Describe basic actions when encountering fire in cabin, cockpit or engine			x	x	x	
071 03 01 03	Tail/rotor/directional control failure						
	LO Describe basic actions following the loss of tail rotor			x	x	x	
	LO Describe basic actions following loss of directional control			x	x	x	
071 03 01 04	Ground resonance						
	LO Describe recovery actions			x	x	x	
071 03 01 05	Blade stall						
	LO Describe cause and recovery actions when encountering retreating blade stall			x	x	x	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter			IR
		ATPL	CPL	ATPL /IR	ATPL	CPL	
071 03 01 06	Settling with power (vortex ring)						
LO	Describe pre-requisite conditions and recovery actions			x	x	x	
071 03 01 07	Overpitch						
LO	Describe recovery actions			x	x	x	
071 03 01 08	Overspeed: rotor/engine						
LO	Describe overspeed control			x	x	x	
071 03 01 09	Dynamic rollover						
LO	Describe potential conditions and recovery action			x	x	x	
071 03 01 10	Mast bumping						
LO	Describe conditions conducive to and avoidance of effect			x	x	x	

END

Příloha č. 4

Osнова předmětu Spojení zpracovaná dle Learning
Objectives 2008

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Subject – 090 – Communications

See Appendix 1 to JAR-FCL 1.470 and JAR-FCL 2.470

Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
090 00 00 00	COMMUNICATIONS					
091 00 00 00	VFR COMMUNICATIONS					
091 01 00 00	DEFINITIONS					
091 01 01 00	Meanings and significance of associated terms	X	X	X	X	X
	LO Stations					
	LO Communication methods					
091 01 02 00	Air Traffic Services abbreviations	X	X	X	X	X
	LO Define commonly used Air Traffic Control abbreviations: - Flight conditions - Airspace - Services - Time - Miscellaneous					
091 01 03 00	Q-code groups commonly used in RTF air-ground communications	X	X	X	X	X
	LO Define Q-code groups commonly used in RTF air to ground communications: - Pressure settings - Directions and bearings					
	LO State the procedure for obtaining bearing information in flight					
091 01 04 00	Categories of messages	X	X	X	X	X
	LO List the categories of messages in order of priority					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
	LO Identify the types of messages appropriate to each category					
	LO List the priority of a message (given examples of messages to compare)					
091 02 00 00	GENERAL OPERATING PROCEDURES					
091 02 01 00	Transmission of letters	X	X	X	X	X
	LO State the phonetic alphabet used in radiotelephony					
	LO Identify the occasions when words should be spelt					
091 02 02 00	Transmission of numbers (including level information)	X	X	X	X	X
	LO Describe the method of transmission of numbers: - Pronunciation - Single digits, whole hundreds and whole thousands					
091 02 03 00	Transmission of time	X	X	X	X	X
	LO Describe the ways of transmitting time - Standard time reference (UTC) - Minutes, minutes and hours, when required					
091 02 04 00	Transmission technique	X	X	X	X	X
	LO Explain the techniques used for making good R/T transmissions					
091 02 05 00	Standard words and phrases (relevant RTF phraseology included)	X	X	X	X	X
	LO Define the meaning of standard words and phrases					
	LO Use correct phraseology for each phase of VFR flight					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
LO	Aerodrome procedures - Departure information - Taxi instructions - Aerodrome traffic and circuits - Final approach and landing - After landing - Essential aerodrome information					
LO	VFR Departure					
LO	VFR Arrival					
091 02 06 00	Radiotelephony call signs for aeronautical stations including use of abbreviated call signs	X	X	X	X	X
LO	Name the two parts of the call sign of an aeronautical station					
LO	Identify the call sign suffixes for aeronautical stations					
LO	Explain when the call sign may be omitted or abbreviated to the use of suffix only					
091 02 07 00	Radiotelephony call signs for aircraft including use of abbreviated call signs	X	X	X	X	X
LO	List the three different ways to compose an aircraft call sign					
LO	Describe the abbreviated forms for aircraft call signs					
LO	Explain when aircraft call signs may be abbreviated					
091 02 08 00	Transfer of communication	X	X	X	X	X
LO	Describe the procedure for transfer of communication - By groundstation - By aircraft					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
091 02 09 00	Test procedures including readability scale	X	X	X	X	X
LO	Explain how to test radio transmission and reception					
LO	State the readability scale and explain its meaning					
091 02 10 00	Read back and acknowledgement requirements	X	X	X	X	X
LO	State the requirement to read back ATC route clearances					
LO	State the requirement to read back clearances related to in runway in use					
LO	State the requirement to read back other clearances including conditional clearances					
LO	State the the requirement to read back other data such as runway, SSR codes etc					
091 02 11 00	Radar procedural phraseology	X	X	X	X	X
LO	Use the correct phraseology for an aircraft receiving a radar service					
	- Radar identification					
	- Radar vectoring					
	- Traffic information and avoidance					
	- SSR procedures					
091 03 00 00	RELEVANT WEATHER INFORMATION TERMS (VFR)					
091 03 01 00	Aerodrome weather	X	X	X	X	X

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR	
		ATPL	CPL	ATPL/IR	ATPL		CPL
LO	List the contents of aerodrome weather reports and state units of measurement used for each item <ul style="list-style-type: none"> - Wind direction and speed - Variation of wind direction and speed - Visibility - Present weather - Cloud amount and type (including the meaning of CAVOK) - Air temperature and dewpoint - Pressure values (QNH, QFE) - Supplementary information (aerodrome warnings, landing runway, runway conditions, restrictions, obstructions, windshear warnings, etc) 						
091 03 02 00	Weather broadcast	X	X	X	X	X	
LO	List the sources of weather information available for aircraft in flight						
LO	Explain the meaning of the abbreviations: ATIS, VOLMET						
091 04 00 00	ACTION REQUIRED TO BE TAKEN IN CASE OF COMMUNICATION FAILURE	X	X	X	X	X	
LO	State the action to be taken in case of communication failure on a controlled VFR-flight						
LO	Identify the frequencies to be used in an attempt to establish communication						
LO	State the additional information that should be transmitted, in the event of receiver failure						
LO	Identify the SSR code that may be used to indicate communication failure						
LO	Explain the action to be taken by a pilot with Com failure in the aerodrome traffic pattern at controlled aerodromes						
091 05 00 00	DISTRESS AND URGENCY PROCEDURES	X	X	X	X	X	

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
091 05 01 00	Distress (definition – frequencies – watch of distress frequencies – distress signal – distress message)	X	X	X	X	X
LO	State the DISTRESS procedures					
LO	Define DISTRESS					
LO	Identify the frequencies that should be used by aircraft in DISTRESS					
LO	Specify the emergency SSR codes that may be used by aircraft, and the meaning of the codes					
LO	Describe the action to be taken by the station which receives a DISTRESS message					
LO	Describe the action to be taken by all other stations when a DISTRESS procedure is in progress					
LO	List the content of a DISTRESS signal/message in the correct sequence					
091 05 02 00	Urgency (definition – frequencies – urgency signal – urgency message)	X	X	X	X	X
LO	State the URGENCY procedures					
LO	Define URGENCY					
LO	Identify the frequencies that should be used by aircraft in URGENCY					
LO	Describe the action to be taken by the station which receives an URGENCY message					
LO	Describe the action to be taken by all other stations when an URGENCY procedure is in progress					
LO	List the content of an URGENCY signal/message in the correct sequence					
091 06 00 00	GENERAL PRINCIPLES OF VHF PROPAGATION AND ALLOCATION OF FREQUENCIES	X	X	X	X	X

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
	LO Describe the radio frequency spectrum with particular reference to VHF					
	LO Describe the radio frequency spectrum of the bands into which the radio frequency spectrum is divided					
	LO Identify the frequency range of the VHF band					
	LO Name the band normally used for Aeronautical Mobile Service voice communication					
	LO State the frequency separation allocated between consecutive VHF frequencies					
	LO Describe the propagation characteristics of radio transmissions in the VHF band					
	LO Describe factors which reduce the effective range and quality of radio transmissions					
	LO State which of these factors apply to the VHF band					
	LO Calculate the effective range of VHF transmissions assuming no attenuating factors					
092 00 00 00	IFR COMMUNICATIONS					
092 01 00 00	DEFINITIONS					
092 01 01 00	Meanings and significance of associated terms	X		X		X
	LO As for VFR plus terms used in conjunction with approach and holding procedures					
092 01 02 00	Air Traffic Control abbreviations	X		X		X
	LO As for VFR plus additional IFR related terms					
092 01 03 00	Q-code groups commonly used in RTF air-ground communications	X		X		X
	LO Define Q-code groups commonly used in RTF air to ground communications: - Pressure settings - Directions and bearings					
	LO State the procedure for obtaining a bearing information in flight					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
092 01 04 00	Categories of messages	X		X		X
LO	List the categories of messages in order of priority					
LO	Identify the types of messages appropriate to each category					
LO	List the priority of a message (given examples of messages to compare)					
092 02 00 00	GENERAL OPERATING PROCEDURES					
092 02 01 00	Transmission of letters	X		X		X
LO	State the phonetic alphabet used in radiotelephony					
LO	Identify the occasions when words should be spelt					
092 02 02 00	Transmission of numbers (including level information)	X		X		X
LO	Describe the method of transmitting numbers					
	- Pronunciation					
	- Single digits, whole hundreds and whole thousands					
092 02 03 00	Transmission of time	X		X		X
LO	Describe the ways of transmitting time					
	- Standard time reference (UTC)					
	- Minutes, minutes and hours, when required					
092 02 04 00	Transmission technique	X		X		X
LO	Explain the techniques used for making good R/T transmissions					
092 02 05 00	Standard words and phrases (relevant RTF phraseology included)	X		X		X
LO	Define the meaning of standard words and phrases					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR	
		ATPL	CPL	ATPL/IR	ATPL		CPL
	LO Use correct standard phraseology for each phase of IFR flight <ul style="list-style-type: none"> - Pushback - IFR departure - Airways clearances - Position reporting - Approach procedures - IFR arrivals 						
092 02 06 00	Radiotelephony call signs for aeronautical stations including use of abbreviated call signs	X		X			X
	LO As for VFR						
	LO Name the two parts of the call sign of an aeronautical station						
	LO Identify the call sign suffixes for aeronautical stations						
	LO Explain when the call sign may be abbreviated to the use of suffix only						
092 02 07 00	Radiotelephony call signs for aircraft including use of abbreviated call signs	X		X			X
	LO As for VFR						
	LO Explain when the suffix “HEAVY” should be used with an aircraft call sign						
	LO Explain the use of the phrase “Change your call sign to . . .”						
	LO Explain the use of of the phrase “Revert to flight plan call sign”						
092 02 08 00	Transfer of communication	X		X			X
	LO Describe the procedure for transfer of communication <ul style="list-style-type: none"> - By ground station - By aircraft 						

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		ATPL	CPL	ATPL/IR	ATPL	
092 02 09 00	Test procedures including readability scale; establishment of RTF communication	X		X		X
LO	Explain how to test radio transmission and reception					
LO	State the readability scale and explain its meaning					
092 02 10 00	Read back and acknowledgement requirements	X		X		X
LO	State the requirement to read back ATC route clearances					
LO	State the requirement to read back clearances related to runway in use					
LO	State the requirement to read back other clearances including conditional clearances					
LO	State the requirement to read back data such as runway, SSR codes etc					
092 02 11 00	Radar procedural phraseology	X		X		X
LO	Use the correct phraseology for an aircraft receiving a radar service <ul style="list-style-type: none"> - Radar identification - Radar vectoring - Traffic information and avoidance - SSR procedures 					
092 02 12 00	Level changes and reports	X		X		X
LO	Use the correct term to describe vertical position <ul style="list-style-type: none"> - In relation to flight level (standard pressure setting) - In relation to Altitude (metres/feet on QNH) - In relation to Height (metres/feet on QFE) 					
092 03 00 00	ACTION REQUIRED TO BE TAKEN IN CASE OF COMMUNICATION FAILURE	X		X		X
LO	Describe the action to be taken in communication failure on a IFR flight					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
LO	Describe the action to be taken in case of communication failure on a IFR flight when flying in VMC and the flight will be terminated in VMC					
LO	Describe the action to be taken in case of communication failure on a IFR flight when flying in IMC					
092 04 00 00	DISTRESS AND URGENCY PROCEDURES					
092 04 01 00	PAN medical	X		X		X
LO	Describe the type of flights to which PAN MEDICAL applies					
LO	List the content of a PAN MEDICAL message in correct sequence					
092 04 02 00	Distress (definition – frequencies – watch of distress frequencies – distress signal – distress message)	X		X		X
LO	State the DISTRESS procedures					
LO	Define DISTRESS					
LO	Identify the frequencies that should be used by aircraft in DISTRESS					
LO	Specify the emergency SSR codes that may be used by aircraft, and the meaning of the codes					
LO	Describe the action to be taken by the station which receives a DISTRESS message					
LO	Describe the action to be taken by all other stations when a DISTRESS procedure is in progress	X		X		X
LO	List the content of a DISTRESS message					
092 04 03 00	Urgency (definition – frequencies – urgency signal – urgency message)					
LO	State the URGENCY procedures					
LO	Define URGENCY					
LO	Identify the frequencies that should be used by aircraft in URGENCY					

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Syllabus reference	Syllabus details and associated Learning Objectives	Aeroplane		Helicopter		IR
		ATPL	CPL	ATPL/IR	ATPL	
LO	Describe the action to be taken by the station which receives an URGENCY message	X		X		X
LO	Describe the action to be taken by all other stations when an DISTRESS procedure is in progress					
LO	List the content of an URGENCY signal/message in the correct sequence					
092 05 00 00	RELEVANT WEATHER INFORMATION TERM					
092 05 01 00	Aerodrome weather	X		X		X
LO	As for VFR plus the following					
LO	Runway visual range					
LO	Braking action (friction coefficient)					
092 05 02 00	Weather broadcast	X		X		X
LO	As for VFR plus the following					
LO	Explain when aircraft routine meteorological observations should be made					
LO	Explain when aircraft Special meteorological observations should be made					
092 06 00 00	GENERAL PRINCIPLES OF VHF PROPAGATION AND ALLOCATION OF FREQUENCIES	X		X		X
LO	Describe the radio frequency spectrum with particular reference to VHF					
LO	State the names of the bands into which the radio frequency spectrum is divided					
LO	Identify the frequency range of the VHF band					
LO	Name the band normally used for Aeronautical Mobile Service voice communications					
LO	State the frequency separation allocated between consecutive VHF frequencies					
LO	Describe the propagation characteristics of radio transmissions in the VHF band					
LO	Describe the factors which reduce the effective range and quality of radio transmissions					

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		ATPL	CPL	ATPL/IR	ATPL	CPL	
	LO State which of these factors apply to the VHF band						
	LO Calculate the effective range of VHF transmissions assuming no attenuating factors						
092 07 00 00	MORSE CODE	X	X	X	X	X	X
	LO Identify radio navigation aids (VOR, DME, NDB, ILS) from their morse code identifiers						
	LO SELCAL, TCAS, ACARS phraseology and procedures						

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