

අධ්‍යාපනය හා මානව සම්පත් සංවර්ධනය පිළිබඳ ආංශික අධීක්ෂණ
කාරක සභාවේ

රාජ්‍ය සහ රාජ්‍ය නොවන විශ්ව විද්‍යාල සඳහා කර්මාන්ත ක්ෂේත්‍රය
ඉලක්ක කරගත් තොරතුරු තාක්ෂණික උපාධි පාඨමාලා හඳුන්වාදීම
පිළිබඳ වාර්තාව

පාර්ලිමේන්තුව වෙත ඉදිරිපත් කරන ලද්දේ
කාරක සභාවේ සභාපති

ගරු (මහාචාර්ය) ආශු මාරසිංහ මහතා
2020 පෙබරවාරි 07 වැනි සිකුරාදා දින

කල්වි மற்றும் மனித வள அபிவிருத்தி பற்றிய துறைசார்
மேற்பார்வைக் குழுவின்

தொழில்துறைசார் தகவல் தொழில்நுட்ப
பட்டப்படிப்புகளை இலங்கை அரச மற்றும் தனியார்
பல்கலைக்கழகங்களுக்கு அறிமுகப்படுத்துதல்

கௌரவ (பேராசிரியர்) ஆசு மாரசிங்க அவர்களினால்
பாராளுமன்றத்திற்கு சமர்ப்பிக்கப்பட்டது
2020 பிப்ரவரி 07 ஆம் திகதி வெள்ளிக்கிழமை

Report

of

The Sectoral Oversight Committee on Education and
Human Resources Development

on the

Introduction of Industry Oriented Information
Technology Degree Programs into Sri Lankan State and
Non-State Universities

Presented to Parliament by

The Hon. (Prof.) Ashu Marasinghe
Chair of the Committee

On Friday, 07th February 2020



අධ්‍යාපනය හා මානව සම්පත් සංවර්ධනය
පිළිබඳ ආංශික අධීක්ෂණ කාරක සභාව

ශ්‍රී ලාංකික විශ්ව විද්‍යාල සඳහා කර්මාන්ත ක්‍ෂේත්‍රය ඉලක්ක කරගත්
තොරතුරු තාක්ෂණික උපාධි පාඨමාලා හඳුන්වාදීම

“අනාගතය ජයගනු පිණිස නව පරපුරට සරිලන
නව දැනුම සහ දක්ෂතා ”

2020 පෙබරවාරි මස 07 වැනි සිකුරාදා

ගරු (මහාචාර්ය) ආශු මාරසිංහ මහතා (සභාපති)
 ගරු වඩ්ඩේල් සුරේෂ් මහතා
 ගරු ගාමිණී ලොකුගේ මහතා
 ගරු ලසන්ත අලගියවන්ත මහතා
 ගරු නිහාල් ගලප්පත්ති මහතා
 ගරු අංජන් රාමනාදන් මහතා
 ගරු ශ්‍රීනාල් ද මෙල් මහතා
 ගරු ක. තුරෙයිරත්නසිංහම් මහතා
 ගරු සීනිතම්බි යෝගේස්වරන් මහතා
 ගරු එස්. ශ්‍රීතරන් මහතා
 ගරු වේලු කුමාර් මහතා
 ගරු සිසිර ජයකොඩි මහතා
 ගරු (වෛද්‍ය) නලින්ද ජයතිස්ස මහතා
 ගරු සුජිත් සංජය පෙරේරා මහතා
 ගරු මුහම්මද්ද ඉබ්‍රාහිම් මුහම්මද්ද මන්සූර් මහතා
 ගරු මුජිබර් රහුමාන් මහතා
 ගරු රෝහිණි කුමාරි විජේරත්න මහත්මිය
 ගරු ඥානමුත්තු ශ්‍රීවන්සන් මහතා
 ගරු වතුර සංදීප සේනාරත්න මහතා
 ගරු විජේපාල හෙට්ටිආරච්චි මහතා

කාරක සභාව සතු බලතල

ආංශික අධීක්ෂණ කාරක සභාවක් සතු බලතල සහ ක්‍රියාකාරිත්වය, ශ්‍රී ලංකා පාර්ලිමේන්තුවේ ස්ථාවර නියෝග 111 යටතේ දක්වා ඇති අතර, එම තොරතුරු www.parliament.lk වෙබ් අඩවියෙහි ඇතුළත්ය.

ප්‍රකාශන

ආංශික අධීක්ෂණ කාරකසභාවන් විසින් ප්‍රකාශයට පත්කරනු ලබන වාර්තා සහ සාක්ෂි පාර්ලිමේන්තුවේ කාරකසභා කාර්යාංශයෙන් හෝ www.parliament.lk වෙබ් අඩවියෙන් බාගත කරගත හැකිය.

අධීක්ෂණ කාරක සභා ලේකම් කාර්යාලය

ටිකිරි කේ. ජයතිලක මහතා - පාර්ලිමේන්තුවේ සහකාර මහලේකම්, ජගත් ගජවීරආරච්චිගේ මහතා - අධ්‍යක්ෂ (වයවස්ථාදාක සේවා), ඉන්දිරා දිසානායක මහත්මිය - සහකාර අධ්‍යක්ෂ (පරිපාලන), එන්.එන්. වේවැල්වල මහතා - ප්‍රධාන නිලධාරී, ඊ.ඒ.එන්.එම්. එදිරිසිංහ මහත්මිය - පාර්ලිමේන්තු නිලධාරී, හෂම් ප්‍රනාන්දුපුල්ලේ මහත්මිය - පාර්ලිමේන්තු නිලධාරී

**අධ්‍යාපනය හා මානව සම්පත් සංවර්ධනය පිළිබඳ ආංශික කාරක සභාවේ
උපදේශක**

ආචාර්ය ඩබ්. ජී. පියල් ආරියනන්ද මහතා

යොමුව සහ විමසීම්

මෙම වාර්තාව පිළිබඳ සියළුම ලිපිලේඛන සහ විමසීම් සඳහා, ලේකම්, අධ්‍යාපනය හා මානව සම්පත් සංවර්ධනය පිළිබඳ ආංශික කාරක සභාව, කාරක සභා කාර්යාලය, ශ්‍රී ලංකා පාර්ලිමේන්තුව, ශ්‍රී ජයවර්ධනපුර, කෝට්ටේ ලිපිනයෙන් ද දුරකථන අංක (011) 2 777100 ඔස්සේ ද සම්බන්ධ විය හැකිය

පටුන

1.0	හැඳින්වීම	01
2.0	සුවිශේෂී තොරතුරු	02
3.0	පාඨමාලා සමෝධානිත කිරීම	02
4.0	ඉගෙනුම් වසරවල සාමාන්‍ය පිරිසැලසුම	03
5.0	උපාධි පාඨමාලා සහ විෂයයන්	03
6.0	පාඨමාලා අවශ්‍යතා සම්බන්ධීකරණය කිරීම	03
7.0	උපාධි පාඨමාලා සහ විෂයයන්	04
8.0	සම්පත් දායකත්වය	11

රාජ්‍ය සහ රාජ්‍ය නොවන විශ්ව විද්‍යාල සඳහා කර්මාන්ත ක්‍ෂේත්‍රය ඉලක්ක කරගත් තොරතුරු තාක්ෂණික උපාධි පාඨමාලා හඳුන්වාදීම

1.0 හැඳින්වීම.

ලෝකය තාක්ෂණය, විද්‍යාව, සෞඛ්‍ය පහසුකම්, කෘෂිකර්මය, ජීවන තත්ත්වයන් ආදී අංශ මූලික කරගෙන සෑම අයුරකින්ම නව තලයන් කරා වේගයෙන් පා නගමින් සිටී. හතරවන කාර්මික විප්ලවයේ සිර වී දැනටමත් අන් රටවලට වඩා සිටින්නේ පසුපසින් සිටින ශ්‍රී ලංකාව ජාතික දැනුම් තලය ඉහලට ගෙන එමින් මේ තත්ත්වය ජයගෙන ඉදිරියට යා යුතු වන අතර එසේ නොවුවහොත් අපට ඉදිරිගමනක් තියා මේ තත්ත්වය යටතේ පැවැත්මක් හෝ නොමැතිවනු ඇත. තවමත් සාම්ප්‍රදායික ඉගැන්වීම් ක්‍රම සහ අධ්‍යාපන ක්‍රම වලින් සමන්විත අධ්‍යාපන ප්‍රවාහයක කොටු වී සිටින අප මෙම විභාග මූලික, මතකය පමණක් පරීක්ෂාවට ලක් කෙරෙන මෙම යල් පැනගිය සාම්ප්‍රදායික අධ්‍යාපන රටාවෙන් මිදී ඉදිරියට යාමට පවත්නා අධ්‍යාපන අංශවල යාවත්කාලීන කිරීමක්, ගුණාත්මක තත්ත්වයේ ඉහළ දැමීමක්, සහ විප්ලවීය වෙනසක් පෙර පාසැල් අධ්‍යාපනයේ සිට පශ්චාත් උපාධි තත්ත්වය දක්වා සියළු අංශයන් වලින් කළ යුතු බව අධ්‍යාපනික සහ කාර්මික අංශ විසින් හඳුනාගෙන සිටින බව අප හොඳින්ම දනිමු. මේ වන විටත් අප පළමු පන්තියේ සිට උසස් පෙළ දක්වා STEM අධ්‍යාපනික ප්‍රතිසංස්කරණ යෝජනා හඳුන්වාදී ඇත. එසේ නමුත්, විශ්ව විද්‍යාල පද්ධතිය තවමත් කාර්මික ක්‍ෂේත්‍රයේ නූතන අවශ්‍යතා සම්පූර්ණ කිරීම සඳහා හැඩගැසී නොමැති බව පෙනී ගොස් ඇත. කෘත්‍රීම බුද්ධිය, අන්තර්ජාලය හා සම්බන්ධ උපාංග, රොබෝතාක්ෂණය, ස්වයංක්‍රීය යන්ත්‍ර, දත්ත සහ අන්තර්ජාල සුරක්ෂිතතාවය, ස්වයංක්‍රීයකරණය වැනි දියුණු තාක්ෂණික අංශ සඳහා පුහුණු ශ්‍රම බලකායක අවශ්‍යතාවය දැන් දැන් බලවත්ව දැනෙනුයේ නවීනතම යන්ත්‍රසූත්‍ර සහ කර්මාන්තශාලා සිය කාර්යක්ෂමතාවය සහ ඵලදායිතාවය වැඩි කර ගැනීමට දැන් දැන් මේ තාක්ෂණයන් භාවිතා කරන නිසාවෙන් දැනට පවතින ශ්‍රම බලකාය අදාල දැනුමෙන් අසම්පූර්ණ බවක් පෙන්නුම් කරන නිසාවෙනි. මෙවැනි විෂයයන් දැනටමත් සමහර විශ්ව විද්‍යාලවල උගන්වන නමුත්, මේ වෙනුවෙන් කළ හැකි විශාල වැඩ කොටසක් කළ යුතුව තිබේ. සමාජයේ සෑම ස්ථරයකම දැන් රටේ තරුණ පරපුර උදෙසා සිදුවිය යුතු ප්‍රගමනයන් පිළිබඳ කතිකාවතක් ගොඩනැගෙමින් පවතින මේ අවස්ථාව රටේ දැනට පවතින විශ්ව විද්‍යාල හරහා මෙවැනි තාක්ෂණයෙන් පිරිපුන් නව උපාධි පාඨමාලා ඇරඹීමට ඇති ස්වර්ණමය අවස්ථාවකි. මෙවැනි පාඨමාලා නිසා රටේ තරුණ පරපුරට අළුත් තාක්ෂණයන් සහ නව අධ්‍යාපන අංශ කෙරෙහි නැඹුරු වීමේ අවස්ථාවන් ලැබීම හරහා දැනටමත් අවම පහසුකම් හමුවේ ජාත්‍යන්තරව දක්ෂතා පෙන්වන තරුණ පරපුරට අනාගත තාක්ෂණික අභියෝග ජය ගැනීමට ඇති අවස්ථාවන් තව දුරටත් පුළුල් වනු ඇත.

විදේශීයව පතල ඉහළ ගුණාත්මක තත්ත්වයන්හි පවතින විශ්ව විද්‍යාල සමග ශ්‍රී ලාංකික විශ්ව විද්‍යාලවල සහයෝගීත්වයෙන් පවත්වාගෙන යා හැකි මේ පාඨමාලා හරහා අප තරුණ තරුණියන්ට මෙකී ක්‍ෂේත්‍රයන්හි නව මානයන් කරා ගොස් ඒවා ඉගෙනීමට, නව සොයා ගැනීම්වලට සහ ඒ හරහා දක්ෂතා දැක්වීමට අවස්ථාව එළඹෙනු ඇත. ශ්‍රී ලංකාව දක්ෂතාවයන්ගෙන් අඩුවක් නොමැති නමුත්, අවශ්‍ය තරම් අවස්ථාවන්, උසස් තත්ත්වයේ ගුණාත්මක දැනුම් සම්භාරයක ගලා ඒමක මඳකමක් ඇති රටකි. මෙම උත්සාහය පවතින විශ්ව විද්‍යාලීය අධ්‍යාපනයට නවතම උපාධි පාඨමාලා එකතු කර ඒ අවස්ථාවන් අපේ දක්ෂ තරුණ දරුවන්ට ලබා දී රටේ සමාජය සහ ආර්ථික තත්ත්වය තවදුරටත් ඉහළ නැංවීමේ කාර්යයට ඔවුන්ව දායක කර ගැනීමේ මහඟු ව්‍යායාමයට ලැබී ඇති අගනා අවස්ථාවකි.

ශ්‍රී ලංකාව නව්‍යකරණයෙන්, උසස් තාක්ෂණයන් මගින්, ඉදිරියට යන ගමනේ විදේශීය සිසුන් සමග ලාංකික සිසුන්ට එක්ව කටයුතු කිරීමේ අවස්ථාව හරහා, නව අධ්‍යාපනික ක්‍රමවේදයන් සහ සංස්කෘතීන් සමග

අනුගතව නව ආකල්පමය සංවර්ධනයක් ලබා දැනට ලෝකයේ පවතින නව ප්‍රවණතා කෙරෙහි නැඹුරු වෙමින් නොසිතූ අභියෝගයන් ජය ගැනීමට ඇති හැකියාව ද පුළුල් වනු ඇති.

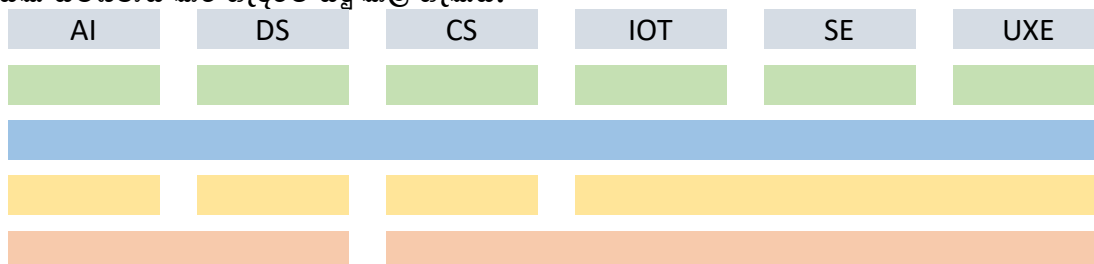
මේ විදේශීය විශ්ව විද්‍යාලවල දැනටමත් පැවැත්වෙන මෙම උපාධි පාඨමාලා සරළව අපගේ විශ්ව විද්‍යාල පාඨමාලාවලට අනුගත කර ගැනීම මගින් ඉතා ඉක්මනින්ම මේ පාඨමාලා ආරම්භ කර, අපේක්ෂිත ප්‍රතිඵල කරා යා හැකිය. උසස් පෙළ සමත් සෑම දරුවෙකුටම විශ්ව විද්‍යාල ප්‍රවේශය ලබා දීමේ යෝජනාවලිය අනුව මේ උපාධි පාඨමාලා ඇරඹීම මගින් අපේ රටේ දැරුවන් එම ඉගෙනුම් හරහා, තවත් වසර හතරකින් සමාජයට වැඩිදායී විෂය ක්‍ෂේත්‍රයන් හරහා රටේ ප්‍රගමනයට දායක කර ගැනීම සිදු කර ගැනීමේ ජනතාවාදී බලාපෙරොත්තු ඉටු කර ගැනීමට හැකි වනු ඇත.

2.0 සුවිශේෂී තොරතුරු

ප්‍රතිතනය	Seoul
මිනුම් ලකුණ	ACM/IEEE (UGC Requirement)
තත්ක රාමුව	SLQF - Level 6
උපාධිය	Bachelor of Science (Honours) in (Need to specify) Bachelor of Computing (Honours) in (Need to specify)
නිපුණතා ක්‍ෂේත්‍ර	IOT, Data Science, AI, UX Engineering and Software Engineering
ඇතුළත් කර ගැනීමේ සුදුසුකම්	
AI	Physical Science
Data Science	Physical Science , Commerce and Bio Science
Cyber Security	Technology and Physical Science
IOT	Technology and Physical Science
Software Engineering	Physical Science and Bio Science
UX Engineering	Art, Commerce and Physical Science
බහුවිධ ක්‍ෂේත්‍ර සඳහා පහසුකම් සපයන විට	1. Entrance Qualification will define the eligibility to a specialization. 2. Academic activities will be streamlined accordingly

3.0 පාඨමාලා සමෝධානිත කිරීම

අවශ්‍යතාවය අනුව විවිධ වසර වලදී සිසුන්ට විෂය ක්‍ෂේත්‍රයන් තනි තනිව හෝ ජ්‍යෙෂ්ඨ වසර වලදී කිහිපයක් සම්බන්ධ කර හැදිරීම සිදු කළ හැකිය.



4.0 ඉගෙනුම් වසරවල සාමාන්‍ය පිරිසැලසුම

බඳවාගැනීම	ඇතුළත් කරගැනීමේ සුදුසුකම්		
පළමු වසර	අධ්‍යාපනික ක්‍රියාකාරකම්	කර්මාන්ත ආශ්‍රිත ක්‍රියාකාරකම්	ව්‍යාපෘතිය
	පළමු අධ්‍යයන වාරය		දෙවන අධ්‍යයන වාරය
දෙවන වසර	මෘදුකාංග සැකසීමේ ව්‍යාපෘතිය (කණ්ඩායමක් වශයෙන්- hackathon) – කර්මාන්ත ආශ්‍රිත ව්‍යාපෘතිය - අධ්‍යයන ක්‍රියාකාරකම්		
	පළමු අධ්‍යයන වාරය	දෙවන අධ්‍යයන වාරය	
විශේෂ උපාධිය සඳහා තෝරා ගැනීම			
තෙවන වසර	සීමාවාසික පුහුණුව (කාලය වසර එකයි - සිකුරාදා නිදහස් - අධ්‍යයන කටයුතු)		
	සහතිකපත්‍ර පාඨමාලා අවසානය (පළමු අදියර) අධ්‍යාපනික ක්‍රියාකාරකම් නොමැත		
පළමු අධ්‍යයන වාරය		දෙවන අධ්‍යයන වාරය	
සිව්වන වසර	කර්මාන්ත අංශයේ - පර්යේෂණ සහ සංවර්ධන ව්‍යාපෘතිය (තනිව සිදු කරන ව්‍යාපෘතියකි)		
	පළමු අධ්‍යයන වාරය	දෙවන අධ්‍යයන වාරය	
අධ්‍යාපනික ක්‍රියාකාරකම්		(උසස් සහතිකපත්‍ර පාඨමාලා අවසානය (දෙවන අදියර)	

5.0 ක්‍රියාත්මක කිරීම

හතරවන කාර්මික විප්ලවයේ මධ්‍යයේ සිටින ලෝකයට අවශ්‍ය දැනුම සහ දක්ෂතාවලින් පිරිපුන් තරුණ පරපුරක් බිහි කිරීමට නවීන දැනුමින් සපිරි උපාධි පාඨමාලා සමූහයක් අත්‍යවශ්‍යය. ඒ සඳහා ඉක්මන් වැඩපිලිවෙලකට ආරම්භයක් වශයෙන් විදේශීය විශ්ව විද්‍යාලවල දැනටමත් කෙරෙන උපාධි පාඨමාලාවන් ලංකාවට ගැලපෙන පරිදි සුළු වෙනසකට භාජනය කර මෙසේ ඉදිරිපත් කරනු ලැබේ. ඒවා ඉතාමත් ඉක්මනින් පවතින යටිතල පහසුකම් භාවිත කර ක්‍රියාත්මක කිරීමට හැකි වීම විශේෂත්වයකි. මෙහිදී කර්මාන්ත වශයෙන් අදහස් වන්නේ දැනටමත් ඉහළ ආයෝජන සහ ආදායම් ලැබෙමින් පවතින ඉදිරියේදී තවත් පුළුල් විෂයය ක්‍ෂේත්‍රයක් වන තොරතුරු තාක්ෂණය, රොබෝ තාක්ෂණය, ඩිජිටල් කරණය, ස්වයංක්‍රීය කර්මාන්තශාලා, අන්තර්ජාල ආරක්ෂණ පද්ධති සැකසීම, අන්තර්ජාල සහ පරිසරණ මෘදුකාංග සැකසීම වැනි අනාගතය ඉලක්ක කරගත් කර්මාන්ත සමූහයන් වේ.

ශ්‍රී ලංකා විශ්ව විද්‍යාල පද්ධතියට ආගන්තුක උපාධි පාඨමාලා සමූහයක් වන මෙය මූලික අත්හදාබැලීමක් ලෙස උසස් අධ්‍යාපන ආයතන සංගමය (Sri Lanka Association of Higher Education Institutes – SLANSHEI) පද්ධතියේ ලියාපදිංචි ආයතන 16 හරහා නියමු ව්‍යාපෘතියක් ලෙසින් ක්‍රියාත්මක කිරීමට යෝජනා කරනු ලැබේ.

- මෙය ක්‍රියාත්මක වීමට පහත සඳහන් ආයතනවල අනුමැතිය සහ සහතික කිරීම අවශ්‍ය වේ
- SLASSCOM – Sri Lanka Association for Software and Services Companies
 - FITIS – Federation of Information Technology Industry in Sri Lanka
 - BCS – British Computer Society
 - CSSL – The computer society of Sri Lanka

6.0. පාඨමාලා අවශ්‍යතා සම්බන්ධීකරණය කිරීම

ඇමුණුම පරිශීලනය කරන්න

7.0 උපාධි පාඨමාලා සහ විෂයයන්

B.Sc. (Hons) in Artificial Intelligence

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Artificial Intelligence	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Human Computer Interaction	30	3	
		Information Systems in Organizations	30	3	
		Introduction to Data Science	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (Artificial Intelligence - Year Long)	-	8	35
		Research Methods for Computing	30	3	
		Advanced Topics in Artificial Intelligence	30	3	
		Advanced Topics in Software Engineering	30	3	
		Advanced Database Systems	30	3	
		Cryptography and Network Security	30	3	
		Data Analytics and Mining	30	3	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	32
		Natural Language Processing	30	3	
		Big Data Management	30	3	
		System Architectures and Internet of Things	30	4	
	2	Cloud Computing and Data Processing	30	4	
		Machine Learning and Intelligent Data Analysis	30	4	
		High Performance Computing	30	3	

		Ethical hacking and Countermeasures	30	3	
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B.Sc. (Hons) in Data Science

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Artificial Intelligence	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Human Computer Interaction	30	3	
		Information Systems in Organizations	30	3	
		Introduction to Data Science	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (Data Science - Year Long)	-	8	35
		Research Methods for Computing	30	3	
		Advanced Topics in Data Science	30	3	
		Applications of Information Systems in Business	30	3	
		Advanced Database Systems	30	3	
		Information Retrieval	30	3	
		Data Analytics and Mining	30	3	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	32
		Data Science for Business	30	3	
		Big Data Management	30	3	
		Data Visualization	30	4	
	2	Cloud Computing and Data Processing	30	4	

		Machine Learning and Intelligent Data Analysis	30	4	
		Distributed Computing for Data Science	30	3	
		Social Media Mining	30	3	
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B.Sc. (Hons) in Cybersecurity

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Cyber Security	30	3	
		Information Systems in Organizations	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (Cybersecurity - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Application Threat Detection	30	4	
		Computer Systems Security	30	3	
		Information Security Practicum	30	4	
	2	Professional Internship	-	9	
	1	Final Project (Year Long)	-	8	34

Year 04		Cyber Security and Forensics	30	4	
		Software Security	30	4	
		Web Security	30	4	
	2	Cryptography and Network Security	30	3	
		Mobile Security	30	4	
		Information Security Governance and Management	30	4	
		Ethical hacking and Countermeasures	30	3	
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B.Sc. (Hons) in Internet of Things

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Internet of Things	30	3	
		Introduction to Cloud Computing	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (IOT - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Introduction to Cybersecurity	30	3	
		Advanced Topics in Internet of Things	30	4	

		Introduction to Human Computer Interaction	30	3	
		Security and Privacy for Internet of Things	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Wireless Communications for IoT	30	4	
		Microcontrollers for IoT Devices	30	4	
		Sensors for IoT	30	4	
	2	Network Protocols for IoT	30	4	
		IoT Forensics	30	4	
		Data Science for IoT	30	3	
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B.Sc. (Hons) in Software Engineering

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Project Management	30	3	
		Database and Web Applications	30	3	

		Career Planning - Seminar		0	
Year 03	1	Group Project (SE - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Software Engineering Practices	30	3	
		Advanced Database Systems	30	4	
		Service Oriented Software Engineering	30	3	
		Software Quality Assurance Fundamentals	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Software Quality Assurance	30	4	
		Software Tools with Mobile Application Development	30	4	
		Games Development and Programming	30	4	
	2	Advanced Software Engineering Topics	30	4	
		Security and Forensics	30	4	
		High Performance Computing	30	3	
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B.Sc. (Hons) in UX Engineering

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	36
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Design Theory and Practice	30	3	
		Business Skills for e-Commerce	30	4	
		Operating Systems	30	3	
		Object Oriented Design and Programming	30	4	
		Critical Thinking	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Introduction to UX Engineering and Usability Engineering	30	3	34
		Introduction to Software Engineering	30	3	
		E-Business Analysis and Design	30	3	

		Digital Business Management	30	4	
		Fundamentals of User Experience Design	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Project Management	30	3	
		Digital Business Innovation	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (UX/UI - Year Long)	-	8	33
		Research Methods for Computing	30	3	
		UX Design Disciplines	30	3	
		Human-Centred Design Methods	30	3	
		Prototyping Design for Experience	30	3	
		Software Quality Assurance Fundamentals	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Software Quality Assurance	30	4	
		User Experience Design in Organizations	30	4	
		Futures Thinking and Emerging Technology	30	3	
	2	Visual Communication	30	3	
		Distributed Computing Systems	30	3	
		Designing for Virtual Reality	30	3	
		Analysis and Design of Web Info Systems	30	4	
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8.0 Resource Panel

Name	Affiliation
Prof. Deepthi Bandara	Faculty of Agriculture University of Paeradeniya
Prof. Dileeka Dias	Faculty of Engineering, University of Moratuwa
Prof. Rohan Samarajiva	Chairman, Information and Communication Technology Agency
Prof. Prasad Jayaweera	
Prof. S.A. Ariadurai	
Dr. Ajith Madurapperuma	Open University of Sri Lanka, Nawala
Dr. Ruwan Wickramaarachchi	
Dr. Nalaka Lankasena	
Dr.(Mrs.) Subha Fernando	Faculty of Information Technology, University of Moratuwa
Dr. Pradeep Kalansooriya	Kotalawala Defence University
Prof. Ajith de Alwis	Project Director, Coordinating Secretariat for Science, Technology and Innovation (COSTI)
Dr. Udesh Oruthota	
Dr. Kithsiri Manchanayake	
Dr. Upul Dissanayake	
Dr. Abbas Kamardeen	
Dr. Ranil Rajapakshe	
Dr. Charith Giragama	
Dr. M. Ransith Fernando	
Dr. Ruwan Amarasekera	
Dr. Damitha Jayasinghe	
Dr. L.G.H. Karunarathne	
Dr. Prabath S. Wickramarathne	
Dr. Dayan Rajapakshe	
Dr. Hasith Yaggahawita	
Dr. Mohammed Fawaz	
Mr. Indika de Zoysa	
Mr. Abaya Ranaweera	
Mr. S.K. Vajeendra	
Mr. S.Shageevan	



கல்வி மற்றும் மனித வள அபிவிருத்தி பற்றிய
துறைசார் மேற்பார்வை குழு

தொழில்துறைசார் தகவல் தொழில்நுட்ப
பட்டப்படிப்புகளை இலங்கை அரசு மற்றும் தனியார்
பல்கலைக்கழகங்களுக்கு அறிமுகப்படுத்துதல்

“புதிய தலைமுறையினர் எதிர்காலத்தை
வெற்றிகொள்வதற்கான புதிய அறிவு மற்றும்
திறன்கள்”

2020 ஜனவரி மாதம் 03 ஆம் திகதி வெள்ளிக்கிழமை

கல்வி மற்றும் மனித வள அபிவிருத்தி பற்றிய துறைசார் மேற்பார்வைக் குழுவின் உறுப்பினர்கள்

கௌரவ (பேராசிரியர்) ஆசு மாரசிங்க (தவிசாளர்)

கௌரவ வடிவேல் சுரேஷ்

கௌரவ காமினி லொக்குகே

கௌரவ லசந்த அலகியவன்ன

கௌரவ நிஹால் கலப்பத்தி

கௌரவ அங்கஜன் இராமநாதன்

கௌரவ சிறினால் த மெல்

கௌரவ கே. துரைரட்ணசிங்கம்

கௌரவ சீனித்தம்பி யோகேஸ்வரன்

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கௌரவ வேலு குமார்

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குழுவின் தத்துவங்கள்

கல்வி மற்றும் மனித வள அபிவிருத்தி பற்றிய துறைசார் மேற்பார்வைக் குழுவின் கீழ் கல்வி பற்றிய உபகுழு அமைக்கப்பட்டுள்ளது. அத்துடன் சொல்லப்பட்ட துறைசார் மேற்பார்வைக் குழுவின் தத்துவங்கள் பாராளுமன்றத்தின் 111 ஆம் இலக்க நிலையியற் கட்டளையில் தரப்பட்டுள்ளதுடன் மேலதிக தகவல்கள் www.parliament.lk என்னும் இணையத்தளத்திலும் உள்ளடக்கப்பட்டுள்ளன.

வெளியீடுகள்

துறைசார் மேற்பார்வை குழுவினால் வெளியிடப்படும் அறிக்கைகளையும் சாட்சியங்களையும் பாராளுமன்றத்தின் குழு அலுவலகத்திலிருந்து அல்லது www.parliament.lk என்னும் இணையத்தளத்திலிருந்து பெற்றுக்கொள்ளலாம்.

துறைசார் மேற்பார்வை குழு செயலகம்

திரு ரிக்கிரி ஜயதிலக, பாராளுமன்ற உதவிச் செயலாளர் நாயகம், திரு ஜகத் கஜவீர ஆர்ச்சிகே, பணிப்பாளர் (சட்டவாக்க சேவைகள்), திருமதி இந்திரா திசாநாயக்க, உதவிப் பணிப்பாளர் (நிர்வாகம்), திரு நிஷாந்த வெவல்வெல, பிரதான உத்தியோகத்தர், திரு. மகேஷ் உடுகொட, திருமதி. ஈ.ஏ.என். எதிரிசிங்க, பாராளுமன்ற உத்தியோகத்தர்
 கல்வி மற்றும் மனித வள அபிவிருத்தி பற்றிய துறைசார் மேற்பார்வைக் குழுவின் ஆலோசகர் கலாநிதி. டபிள்யு. ஜீ. பியல் ஆரியநந்த

உசாத்துணை மற்றும் விசாரணைகள்

இந்த அறிக்கை பற்றிய அனைத்து ஆவணங்களுக்கும் விசாரணைகளுக்கும், செயலாளர் கல்வி பற்றிய உபகுழு, கல்வி மற்றும் மனித வள அபிவிருத்தி பற்றிய துறைசார் மேற்பார்வைக் குழு, குழு அலுவலகம், இலங்கை பாராளுமன்றம், ஸ்ரீ ஜயவர்தனபுர கோட்டே என்னும் முகவரிக்கு தபால் மூலமும் அல்லது 0117277710 என்னும் இலக்கத்திற்கு அழைப்பு ஏற்படுத்துவதன் மூலமும் தொடர்பு கொள்ளலாம்.

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1.0 அறிமுகம்

தொழில்நுட்பம், அறிவியல், சுகாதாரம், விவசாயம், வாழ்க்கைத் தரங்கள் மற்றும் பிற அனைத்து முக்கிய துறைகளின் புதிய சகாப்தத்தை நோக்கி உலகம் வேகமாக நகர்கின்றது. தொழில்துறை 4.0 புரட்சியில் ஏற்கனவே சிக்கியுள்ளதுடன் பிற நாடுகளுக்குப் பின்னால் உள்ள இலங்கை, சமூகத்தில் அறிவுத்துறையில் பெரும் மாற்றங்களை நோக்கி முன்னேற வேண்டும். இலங்கை பாரம்பரிய கல்வி முறையில் இன்னும் சிக்கியுள்ளதுடன் இது நினைவக சோதனை, தேர்வு சார், கல்வி முறைமை, பாலர் பாடசாலைக் கல்வி தொடக்கம் முதுகலை பட்டப்படிப்பு வரையிலான தற்போதைய கல்வி முறையை திருத்துதல், மேம்படுத்துதல் மற்றும் பெரும் மாற்றங்களை ஏற்படுத்தல் என்பனவற்றிற்கு உட்படுத்தப்படுதல் வேண்டும் என்பதுடன் கல்வி மற்றும் தொழில்துறை துறை சமூகத்தின் கடுமையான தேவையாகம்

இது காணப்படுகின்றது. உயர்தரம் முதல் தரம் 1 தரம் வரை STEM கல்வி திட்டங்களை நாங்கள் ஏற்கனவே அறிமுகப்படுத்தியுள்ளோம். எவ்வாறாயினும், தொழில் மற்றும் பிற துறைகளின் தேவைகளை பூர்த்தி செய்யும் பல்கலைக்கழக அமைப்பு இன்னும் தேவைகளை பூர்த்தி செய்ய சரியாக ஒழுங்கமைக்கப்படவில்லை. செயற்கை நுண்ணறிவு, இணைய வழிசார் கணினி சாதனங்கள், ரோபாட்டிக்ஸ், இயந்திர கற்றல், தரவு பாதுகாப்பு மற்றும் தானியங்கல் முறைமை ஆகிய துறைகளில் அதிநவீன தொழில்நுட்பத்தில் திறமையான பணியாளர்களின் தேவை உள்ளது. ஒரு சில பல்கலைக்கழகங்கள் மட்டுமே இத்தகைய படிப்புகளை வழங்குகின்றன, ஆனால் இன்னும் நிறைய செய்ய வேண்டியிருக்கிறது. இளம் தலைமுறையினரின் எதிர்காலத்தை மறுவடிவமைக்கும் கலந்துரையாடல் ஏற்கனவே பல மட்டங்களில் தொடங்கியுள்ளது. மேலும் தற்போதுள்ள பல்கலைக்கழகங்கள் மற்றும் பல்கலைக்கழக பட்டங்களுக்கு கலை பட்டப்படிப்பு திட்டத்தை அறிமுகப்படுத்த இது ஒரு பொன்னான வாய்ப்பாக இருக்கும். இது எங்கள் திறமையான புத்திசாலித்தனமான இளம் தலைமுறையினர் அடிப்படை வசதிகள் இல்லாமல் கூட ஏற்கனவே செய்து வரும் உலகின் சமீபத்திய தொழில்நுட்ப சவால்களின் வாய்ப்புகளை ஆராய உதவும்.

புகழ்பெற்ற மற்றும் நன்கு அங்கீகரிக்கப்பட்ட வெளிநாட்டு பல்கலைக்கழகங்களுடன் இலங்கை பல்கலைக்கழகங்களின் ஒத்துழைப்பு எங்கள் மாணவர்களுக்கு இந்த பகுதிகளின் புதிய உயர் நுட்பங்களைக் கற்றுக்கொள்ளவும், நிகழ்த்தவும், கண்டறியவும் உதவும். இலங்கையில் புத்திசாலித்தனமான மனதிற்கு பஞ்சமில்லை, ஆனால் வாய்ப்புகள் மற்றும் தரம் மற்றும் புதுப்பிக்கப்பட்ட அறிவு உள்வருகையின் பற்றாக்குறை உள்ளது. இடைவெளியை பூர்த்திசெய்து, தொழில்நுட்பத்தில் சமீபத்திய பட்டப்படிப்புகளை நமது புத்திசாலித்தனமான இளம் தலைமுறையினருக்கு அறிமுகப்படுத்துவதன் மூலம் இலங்கையின் பொருளாதாரம் மற்றும் வாழ்க்கை நிலையை மேம்படுத்துவதே இந்த முயற்சியின் நோக்கமாகும்

புதுமை, தொழில்நுட்ப முன்னேற்றங்கள் ஊடாக நாடு முன்னேறும்போது, வெளிநாட்டு மாணவர்களுடனும் நவீன கல்வி கலாச்சாரத்துடனும் இளைஞர்களைக் கலப்பது தனிநபர்களாகவும் ஒரு நாட்டாகவும் சவால்களை எதிர்த்துப் போட்டியிடவும் வெல்லவும் சரியான அணுகுமுறையையும் மனநிலையையும் கொண்டு வரும்.

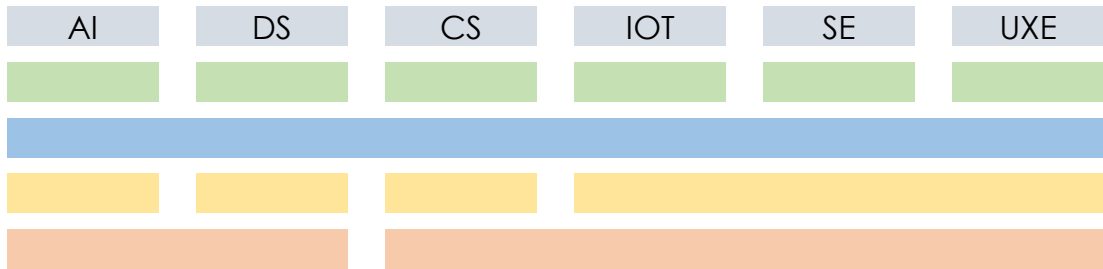
வெளிநாட்டு பல்கலைக்கழகங்கள் மேம்பட்ட தொழில்நுட்ப பட்டப்படிப்புகளை நடத்துகின்றன, மேலும் திட்டங்களின் எளிமையான தழுவல் தேவையான திட்டங்களை விரைவாக தொடங்க உதவும். அனைத்து உயர்தரம் தேர்ச்சி பெற்ற மாணவர்களுக்கும் பல்கலைக்கழகப் பட்டங்களை வழங்குவதானது மாணவர்களின் மற்றும் அரசாங்கத்தின் அபிலாஷைகளை நிறைவேற்றும் என்பதுடன் அதன் விளைவாக 4 ஆண்டுகளில் திறமையான மற்றும் தேர்ச்சிமிக்க தொழிலாளர்களும் உருவாக்கப்படும்.

2.0 விசேட தகவல்

அங்கீகாரம்	சியோல்
அளவுகோல்	ACM/IEEE (UGC தேவைப்பாடு)
தரமான கட்டமைப்பு	SLQF - Level 6
பட்டத்தின் பெயர்	விஞ்ஞானப் பட்டப்படிப்பு(Honours) in (Need to specify) கணனி பட்டப்படிப்பு (Honours) in (Need to specify)
சிறப்பம்சங்கள்	IOT, தரவு விஞ்ஞானம், AI, UX பொறியியல் மற்றும் மென்பொருள் பொறியியல்
நுழைவு தகுதிகள்	
AI	பௌதீக விஞ்ஞானம்
தகவல் விஞ்ஞானம்	பௌதீக விஞ்ஞானம், வர்த்தகம் மற்றும் உயிரியல் விஞ்ஞானம்
சைபர் பாதுகாப்பு	தொழில்நுட்பவியல் மற்றும் பௌதீக விஞ்ஞானம்
IOT	தொழில்நுட்பவியல் மற்றும் பௌதீக விஞ்ஞானம்
மென்பொருள் பொறியியல்	பௌதீக விஞ்ஞானம் மற்றும் உயிரியல் விஞ்ஞானம்
UX பொறியியல்	கலை, வர்த்தகம் மற்றும் பௌதீக விஞ்ஞானம்
நாங்கள் பல்துறை ஸ்டீம்மைகளை ஆதரித்தால்:	1. நுழைவு தகுதி ஒரு நிபுணத்துவத்திற்கான தகுதியை வரையறுக்கும். 2. கல்வி நடவடிக்கைகள் அதற்கேற்ப நெறிப்படுத்தப்படும்

3.0 பட்டம் படிப்புகளின் ஒருங்கிணைப்பு

மாணவர்கள் தேவை அடிப்படையில் சிரேஷ்ட ஆண்டுகளில் இணைக்கப்பட்ட பிரிவுகளாக படிப்புகளைப் பின்பற்றலாம்



4.0 கல்வி ஆண்டுகளின் பொது தளவமைப்பு

மாணவர்களை சேர்த்தல்	நுளைவுத் தகைமைகள்		
1 ஆம் ஆண்டு	கல்வி நடவடிக்கைகள்	தொழில் நடவடிக்கைகள்	செயற்றிட்டம்

	செமஸ்டர் 1	செமஸ்டர் 2
2 ஆம் ஆண்டு	மென்பொருள் மேம்பாடு செயற்றிட்டம் (குழு- hackathon) – தொழில் செயற்றிட்டம் - கல்வி நடவடிக்கைகள்	
	செமஸ்டர் 1	செமஸ்டர் 1
சிறப்பு தேர்வு		
3 ஆம் ஆண்டு	இன்டர்ன்ஷிப் (1 வெள்ளிக்கிழமை விடுமுறையுடன் 1ஆண்டு காலப்பகுதி)	
	சான்றிதழ் படிப்புகளை முடித்தல் (கட்டம் 1) கல்வி நடவடிக்கைகள் இல்லை	
	செமஸ்டர் 1	செமஸ்டர் 2
4 ஆம் ஆண்டு	தொழில் R&D செயற்றிட்டம் (தனி செயற்றிட்டம்)	
	செமஸ்டர் 1	செமஸ்டர் 2
	(கல்வி நடவடிக்கைகள்)	(உயர் சான்றிதழ் படிப்புகளை முடித்தல் (கட்டம் II))

5.0 நடைமுறைப்படுத்தல்

உலகம் நான்காவது தொழில்துறை புரட்சியில் இருக்கும்போது, எதிர்காலத்தை வெற்றிகொள்ளத் தேவையான அறிவு மற்றும் திறன்களைக் கொண்ட இளைஞர்களை நாம் உருவாக்க வேண்டும். இது போன்ற நவீன தொழில்நுட்ப பட்டப்படிப்பு திட்டங்களால் அது நிறைவேற்றப்படுகின்றது. இந்த செயன்முறையின் விரைவான தொடக்கமாக, வெளிநாட்டு பல்கலைக்கழகங்களிலிருந்து ஏற்றுக்கொள்ளப்பட்ட இந்த பட்டப்படிப்பு திட்டங்களை நாங்கள் முன்மொழிகின்றோம். ஆனால் இலங்கைக்கு ஏற்றவாறு உடனடியாக அவற்றை செயற்படுத்த வேண்டும். இதன் வசதி என்னவென்றால், பட்டப்படிப்பு பற்றிய திட்டங்களை தற்போதைய உள்கட்டமைப்பு வசதிகளுடன் குறைந்தபட்ச மாற்றங்களுடன் தொடங்கலாம் என்பதுதான். விசேடமாக தகவல் தொழில்நுட்பம், ரோபாட்டிக்ஸ், டிஜிட்டல் முறைமை, தானியங்கி உற்பத்தித் தொழில்முறை, சைபர் பாதுகாப்பு அமைப்புகளின் வளர்ச்சி மற்றும் மென்பொருள் மேம்பாடு ஆகியவை இந்த பட்டப்படிப்புத் திட்டங்கள் மூலம் கவனம் செலுத்துகின்றன.

இலங்கை பல்கலைக்கழக அமைப்புக்கான இந்த புதிய பட்டப்படிப்புகளை SLANSHEI அமைப்பில் பதிவுசெய்யப்பட்ட 16 உறுப்பு நிறுவனங்கள் மூலம் முன்னோடித் திட்டமாக செயற்படுத்த முடியும். இத் திட்டங்களை செயற்படுத்த, கீழே குறிப்பிடப்பட்டுள்ள நிறுவனங்களின் ஒப்புதல் முற்றிலும் அவசியமாகும்.

- SLASSCOM –ஸ்ரீ லங்கா அசொசியேஷன் போ சாப்ட்வேர் அண்ட் செர்விஸஸ் கொம்பனிஸ்
- FITIS –பெடெரேஷன் ஒப் இன்பொமேஷன் டெக்னொலஜி இண்டஸ்ட்ரி இன் ஸ்ரீ லங்கா
- BCS –பிரிட்டிஷ் கம்ப்யூட்டர் சொசைட்டி
- CSSL –தி கம்ப்யூட்டர் சொசைட்டி ஒப் ஸ்ரீ லங்கா

6.0 பாடநெறி தேவைகளை ஒருங்கிணைத்தல்

தயவுசெய்து இணைப்பைப் பார்க்கவும்

7.0 பட்டப்படிப்புகள் மற்றும் விடயப்பரம்பல்கள்

B.Sc. (Hons) in Artificial Intelligence

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	

		Data Visualization	30	3	
	2	Introduction to Artificial Intelligence	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Human Computer Interaction	30	3	
		Information Systems in Organizations	30	3	
		Introduction to Data Science	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (Artificial Intelligence - Year Long)	-	8	35
		Research Methods for Computing	30	3	
		Advanced Topics in Artificial Intelligence	30	3	
		Advanced Topics in Software Engineering	30	3	
		Advanced Database Systems	30	3	
		Cryptography and Network Security	30	3	
		Data Analytics and Mining	30	3	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	32
		Natural Language Processing	30	3	
		Big Data Management	30	3	
		System Architectures and Internet of Things	30	4	
	2	Cloud Computing and Data Processing	30	4	
		Machine Learning and Intelligent Data Analysis	30	4	
		High Performance Computing	30	3	
		Ethical hacking and Countermeasures	30	3	
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B.Sc. (Hons) in Data Science

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	

		Introduction to Artificial Intelligence	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Human Computer Interaction	30	3	
		Information Systems in Organizations	30	3	
		Introduction to Data Science	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (Data Science - Year Long)	-	8	35
		Research Methods for Computing	30	3	
		Advanced Topics in Data Science	30	3	
		Applications of Information Systems in Business	30	3	
		Advanced Database Systems	30	3	
		Information Retrieval	30	3	
	Data Analytics and Mining	30	3		
2	Professional Internship	-	9		
Year 04	1	Final Project (Year Long)	-	8	32
		Data Science for Business	30	3	
		Big Data Management	30	3	
		Data Visualization	30	4	
	2	Cloud Computing and Data Processing	30	4	
		Machine Learning and Intelligent Data Analysis	30	4	
		Distributed Computing for Data Science	30	3	
		Social Media Mining	30	3	
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B.Sc. (Hons) in Cybersecurity

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
Computer Graphics and Multimedia	30	3			
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	

		Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
	2	Introduction to Cyber Security	30	3	
		Information Systems in Organizations	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (Cybersecurity - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Application Threat Detection	30	4	
		Computer Systems Security	30	3	
		Information Security Practicum	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	34
		Cyber Security and Forensics	30	4	
		Software Security	30	4	
		Web Security	30	4	
		Cryptography and Network Security	30	3	
	2	Mobile Security	30	4	
		Information Security Governance and Management	30	4	
		Ethical hacking and Countermeasures	30	3	
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B.Sc. (Hons) in Internet of Things

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	

	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Internet of Things	30	3	
		Introduction to Cloud Computing	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (IOT - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Introduction to Cybersecurity	30	3	
		Advanced Topics in Internet of Things	30	4	
		Introduction to Human Computer Interaction	30	3	
		Security and Privacy for Internet of Things	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Wireless Communications for IoT	30	4	
		Microcontrollers for IoT Devices	30	4	
		Sensors for IoT	30	4	
	2	Network Protocols for IoT	30	4	
		IoT Forensics	30	4	
		Data Science for IoT	30	3	
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B.Sc. (Hons) in Software Engineering

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	

		Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
	2	Introduction to Human Computer Interaction	30	3	
		Project Management	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (SE - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Software Engineering Practices	30	3	
		Advanced Database Systems	30	4	
		Service Oriented Software Engineering	30	3	
	Software Quality Assurance Fundamentals	30	4		
2	Professional Internship	-	9		
Year 04	1	Final Project (Year Long)	-	8	31
		Software Quality Assurance	30	4	
		Software Tools with Mobile Application Development	30	4	
		Games Development and Programming	30	4	
	2	Advanced Software Engineering Topics	30	4	
		Security and Forensics	30	4	
		High Performance Computing	30	3	
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B.Sc. (Hons) in UX Engineering

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	36
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Design Theory and Practice	30	3	
		Business Skills for e-Commerce	30	4	
		Operating Systems	30	3	
		Object Oriented Design and Programming	30	4	
		Critical Thinking	30	3	
Computer Graphics and Multimedia	30	3			
Year 02	1	Introduction to UX Engineering and Usability Engineering	30	3	34

		Introduction to Software Engineering	30	3	
		E-Business Analysis and Design	30	3	
		Digital Business Management	30	4	
		Fundamentals of User Experience Design	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Project Management	30	3	
		Digital Business Innovation	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (UX/UI - Year Long)	-	8	33
		Research Methods for Computing	30	3	
		UX Design Disciplines	30	3	
		Human-Centred Design Methods	30	3	
		Prototyping Design for Experience	30	3	
		Software Quality Assurance Fundamentals	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Software Quality Assurance	30	4	
		User Experience Design in Organizations	30	4	
		Futures Thinking and Emerging Technology	30	3	
	2	Visual Communication	30	3	
		Distributed Computing Systems	30	3	
		Designing for Virtual Reality	30	3	
		Analysis and Design of Web Info Systems	30	4	
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Resource Panel

Name	Affiliation
Prof. Deepthi Bandara	Faculty of Agriculture University of Paeradeniya
Prof. Dileeka Dias	Faculty of Engineering, University of Moratuwa
Prof. Rohan Samarajiva	Chairman, Information and Communication Technology Agency
Prof. Prasad Jayaweera	
Prof. S.A. Ariadurai	
Dr. Ajith Madurapperuma	Open University of Sri Lanka, Nawala

Dr. Ruwan Wickramaarachchi	
Dr. Nalaka Lankasena	
Dr.(Mrs.) Subha Fernando	Faculty of Information Technology, University of Moratuwa
Dr. Pradeep Kalansooriya	Kotalawala Defence University
Prof. Ajith de Alwis	Project Director, Coordinating Secretariat for Science, Technology and Innovation (COSTI)
Dr. Udesh Oruthota	
Dr. Kithsiri Manchanayake	
Dr. Upul Dissanayake	
Dr. Abbas Kamardeen	
Dr. Ranil Rajapakshe	
Dr. Charith Giragama	
Dr. M. Ransith Fernando	
Dr. Ruwan Amarasekera	
Dr. Damitha Jayasinghe	
Dr. L.G.H. Karunarathne	
Dr. Prabath S. Wickramarathne	
Dr. Dayan Rajapakshe	
Dr. Hasith Yaggahawita	
Dr. Mohammed Fawaz	
Mr. Indika de Zoysa	
Mr. Abaya Ranaweera	
Mr. S.K. Vajeendra	
Mr. S.Shageevan	



Sectoral Oversight Committee on Education and Human Resources Development

Introduction of Industrial Sector Oriented Information Technology Degree Programs into Sri Lankan State and Non-State Universities

“NOVEL KNOWLEDGE AND SKILLS FOR THE NEW GENERATION TO CONQUER THE FUTURE”

Friday, 03rd January 2020

Members of the Sectoral Oversight Committee on Education and Human Resources Development

Hon. (Prof.) Ashu Marasinghe (Chair)

Hon. Vadivel Suresh

Hon. Gamini Lokuge

Hon. Lasantha Alagiyawanna

Hon. Nihal Galappaththi

Hon. Angajan Ramanathan

Hon. Sirinal de Mel

Hon. K. Thurairatnasingam

Hon. Seeniththamby Yoheswaran

Hon. S. Shritharan

Hon. Velu Kumar

Hon. Sisira Jayakody
Hon. (Dr.) Nalinda Jayathissa
Hon. Sujith Sanjaya Perera
Hon. Muhammad Ibrahim Muhammad Mansoor
Hon. Mujibur Rahuman
Hon. (Mrs.) Rohini Kumari Wijerathna
Hon. Gnanamuthu Srinshan
Hon. Chathura Sandeepa Senaratne
Hon. Wijepala Hettiarachchi

Powers of the Committee

The Sub Committee on Education has been set up under the Sectoral Oversight Committee on Education and Human Resources Development and the powers of the said Sectoral Oversight Committees are set out under the Standing Order No. 111 of Parliament and more details are included in the web site www.parliament.lk.

Publications

Reports and evidences published by the Sectoral Oversight Committee could be obtained from Committee office of Parliament or web site www.parliament.lk.

Sectoral Oversight Committee Secretariat

Mr. Tikiri K. Jayatilake, Assistant Secretary General of Parliament, Mr. Jagath Gajaweera Arachchige, Director (Legislative Services), Mrs. Indira Dissanayake-Assistant Director (Administration), Mr. Nishantha Wewalwala- Principal Officer, Mrs. E.A.N.M. Edirisinghe - Parliamentary Officer, Mr. Mahesh Undugoda - Parliamentary Officer.

Consultant to the Sectoral Oversight Committee on Education and Human Resources Development

Dr. W. G. Piyal Ariyananda

Reference and Inquiries

All documents and inquiries on this report could be contacted by post to reach Secretary, Sub Committee on Education, Sectoral Oversight Committee on Education and Human Resources Development, Committee Office, Parliament of Sri Lanka, Sri Jayawardenapura, Kotte and even by calling 011277710.

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Introduction of Industrial Sector Oriented Information Technology Degree Programs into Sri Lankan State and Non-State Universities

1.0 Introduction

The world moves fast towards a new era of technology, science, healthcare, agriculture, living standards, and all the other major sectors. Sri Lanka, already trapped and behind the other countries in the industry 4.0 revolution, has to move towards major changes in the knowledge pool in the society to gain advantage, and to survive the tide. Still caught up in the whirlwinds of traditional educational method, which is yet to break free from memory

testing, examination-oriented, education system, the need of amending, upgrading, and revolutionizing the current education system from the preschool post graduate level is well identified as the dire need of the society by both academia and industrial sector. we have already introduced education STEM education proposals to Grade 1 through Advance Level. However the University system that fulfills the needs of the industry and other sectors is still not properly geared up to satisfy the requirements. There is a dire need of skilled workforce in cutting edge technology in the areas of Artificial Intelligence, Internet of Things, Robotics, Machine Learning, Data Security, and Automation. Only a handful of universities offer such courses, but there is a lot more to be done. The dialogue of reshaping the future of the young generation has already started in many levels, and this will be a golden opportunity to introduce state of the art degree program to the existing Universities and University degrees. This will enable our talented brilliant young minds to explore the opportunities of the latest technological challenges in the world which they are already doing even without basic facilities.

Collaboration of Sri Lankan universities with reputed and well recognized foreign universities will enable our students to learn, perform, and discover new heights of these areas. There is no shortage of brilliant minds in Sri Lanka, but there is a shortage of opportunities and quality and updated knowledge influx. This effort is to fulfill the gap and bring latest degree programs in technology to introduce to our brilliant young generation, thereby developing the economy and living status of Sri Lanka.

As the country progresses through innovation, technological advancements, mixing the youth with foreign students and modern educational culture would bring the right attitude and mindset to compete and conquer the challenges as individuals and as a country.

The foreign universities are conducting the advanced technological degree programs, and simple adaptation of the programs will enable to quickly start the required programs. In the vision of providing University degrees for all the A/L Passed students, this would ideally fulfil the aspirations of the students as well as the government, in return the skilled workforce in 4 years would be the outcome.

2.0. Specific Information

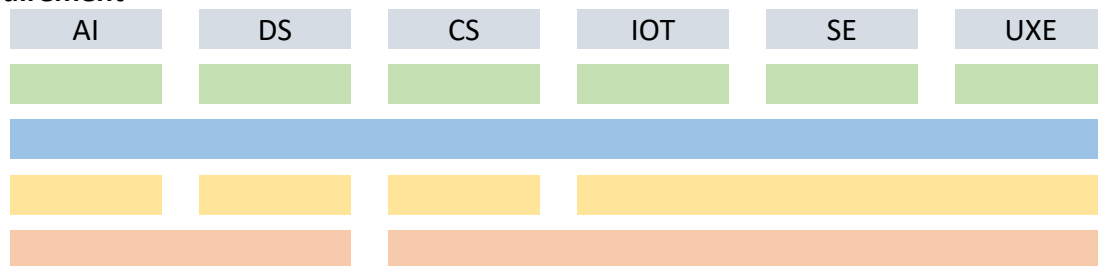
Accreditation	Seoul
Benchmark	ACM/IEEE (UGC Requirement)
Quality Framework	SLQF - Level 6
Degree Name	Bachelor of Science (Honours) in (Need to specify)

Bachelor of Computing (Honours) in (Need to specify)

Specializations	IOT, Data Science, AI, UX Engineering and Software Engineering
Entrance Qualifications	
AI	Physical Science
Data Science	Physical Science , Commerce and Bio Science
Cyber Security	Technology and Physical Science
IOT	Technology and Physical Science
Software Engineering	Physical Science and Bio Science
UX Engineering	Art, Commerce and Physical Science
If we support multiple streams:	1. Entrance Qualification will define the eligibility to a specialization. 2. Academic activities will be streamlined accordingly

3.0. Integration of Degree Courses

Students can Follow the courses as merged disciplines in the senior years based on requirement



4.0. General Layout of the Academic Years

Intake	Entrance Qualification		
Year 1	Academic Activities	Industry Activities	Project
	Semester 1		Semester 2
Year 2	Software Development Project (Group- hackathon) – Industry Project - Academic Activities		
	Semester 1		Semester 1
Selection into Specialization			
Year 3	Internship (1 year duration with Friday Off of Work) Completion of Certificate Courses (Stage 1) No Academic Activity		
	Semester 1		Semester 2

Year 4	Industry R&D project (Individual Project)	
	Semester 1 (Academic Activities)	Semester 2 (Completion of Advanced Certificate Courses (Stage II))

5.0 Implementation

When the world is in the middle of the fourth industrial revolution, we need to produce the youth equipped with the knowledge and skills that need to win the future and it is fulfilled by modern technological degree programs like this. As a quick start to the process, we propose these degree programs adopted from the foreign universities, but tailored for Sri Lankan needs to implement immediately. The convenience of this is that the degree programs can be initiated with the current infrastructure facilities with minimal adjustments. The industry, specially Information technology, Robotics, Digitalization, Automated manufacturing industry, Development of Cyber security systems and software development are focused through these degree programs.

These novel Degree programs to Sri Lankan University system can be implemented as a pilot project through the 16 registered member institutions in SLANSHEI System.

In order to implement these programs, endorsement from the below mentioned institutions are utterly essential.

- SLASSCOM – Sri Lanka Association for Software and Services Companies
- FITIS – Federation of Information Technology Industry in Sri Lanka
- BCS – British Computer Society
- CSSL – The computer society of Sri Lanka

6.0 Coordinating the Course Requirements

Please refer the attachment

7.0 Degree Programs and Subject Areas

B.Sc. (Hons) in Artificial Intelligence

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
	1	Data Analysis with Computer	30	3	34

Year 02		Software Engineering	30	3	
		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Artificial Intelligence	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Human Computer Interaction	30	3	
		Information Systems in Organizations	30	3	
		Introduction to Data Science	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (Artificial Intelligence - Year Long)	-	8	35
		Research Methods for Computing	30	3	
		Advanced Topics in Artificial Intelligence	30	3	
		Advanced Topics in Software Engineering	30	3	
		Advanced Database Systems	30	3	
		Cryptography and Network Security	30	3	
	Data Analytics and Mining	30	3		
2	Professional Internship	-	9		
Year 04	1	Final Project (Year Long)	-	8	32
		Natural Language Processing	30	3	
		Big Data Management	30	3	
		System Architectures and Internet of Things	30	4	
	2	Cloud Computing and Data Processing	30	4	
		Machine Learning and Intelligent Data Analysis	30	4	
		High Performance Computing	30	3	
		Ethical hacking and Countermeasures	30	3	
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B.Sc. (Hons) in Data Science

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	

		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Artificial Intelligence	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Human Computer Interaction	30	3	
		Information Systems in Organizations	30	3	
		Introduction to Data Science	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (Data Science - Year Long)	-	8	35
		Research Methods for Computing	30	3	
		Advanced Topics in Data Science	30	3	
		Applications of Information Systems in Business	30	3	
		Advanced Database Systems	30	3	
		Information Retrieval	30	3	
		Data Analytics and Mining	30	3	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	32
		Data Science for Business	30	3	
		Big Data Management	30	3	
		Data Visualization	30	4	
	2	Cloud Computing and Data Processing	30	4	
		Machine Learning and Intelligent Data Analysis	30	4	
		Distributed Computing for Data Science	30	3	
		Social Media Mining	30	3	
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B.Sc. (Hons) in Cybersecurity

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	

		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Cyber Security	30	3	
		Information Systems in Organizations	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar	-	0	
Year 03	1	Group Project (Cybersecurity - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Application Threat Detection	30	4	
		Computer Systems Security	30	3	
		Information Security Practicum	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	34
		Cyber Security and Forensics	30	4	
		Software Security	30	4	
		Web Security	30	4	
		Cryptography and Network Security	30	3	
	2	Mobile Security	30	4	
		Information Security Governance and Management	30	4	
		Ethical hacking and Countermeasures	30	3	
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B.Sc. (Hons) in Internet of Things

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
	Computer Graphics and Multimedia	30	3		
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	

		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Internet of Things	30	3	
		Introduction to Cloud Computing	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (IOT - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Introduction to Cybersecurity	30	3	
		Advanced Topics in Internet of Things	30	4	
		Introduction to Human Computer Interaction	30	3	
		Security and Privacy for Internet of Things	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Wireless Communications for IoT	30	4	
		Microcontrollers for IoT Devices	30	4	
		Sensors for IoT	30	4	
	2	Network Protocols for IoT	30	4	
		IoT Forensics	30	4	
		Data Science for IoT	30	3	
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B.Sc. (Hons) in Software Engineering

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	35
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Introduction to Database	30	3	
		Advanced Mathematics for Computing	30	4	
		Operating Systems	30	3	
		Computer Networks and Applications	30	3	
		Probability & Introduction to Statistics	30	3	
		Computer Graphics and Multimedia	30	3	
Year 02	1	Data Analysis with Computer	30	3	34
		Software Engineering	30	3	

		Data Structures and Algorithms	30	3	
		Object Oriented Design and Programming	30	4	
		Data Visualization	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Project Management	30	3	
		Database and Web Applications	30	3	
		Career Planning - Seminar		0	
Year 03	1	Group Project (SE - Year Long)	-	8	34
		Research Methods for Computing	30	3	
		Software Engineering Practices	30	3	
		Advanced Database Systems	30	4	
		Service Oriented Software Engineering	30	3	
		Software Quality Assurance Fundamentals	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Software Quality Assurance	30	4	
		Software Tools with Mobile Application Development	30	4	
		Games Development and Programming	30	4	
	2	Advanced Software Engineering Topics	30	4	
		Security and Forensics	30	4	
		High Performance Computing	30	3	
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B.Sc. (Hons) in UX Engineering

Year	Semester	Title of the Course	Lecturers	Credits	Credits Per Year
Year 01	1	Introduction to Computational Thinking	30	3	36
		Fundamentals of Programming	30	3	
		Systems Analysis and Design	30	4	
		Introduction to Academic Communication	30	3	
		Mathematics for Computing	30	3	
	2	Design Theory and Practice	30	3	
		Business Skills for e-Commerce	30	4	
		Operating Systems	30	3	
		Object Oriented Design and Programming	30	4	
		Critical Thinking	30	3	
		Computer Graphics and Multimedia	30	3	

Year 02	1	Introduction to UX Engineering and Usability Engineering	30	3	34
		Introduction to Software Engineering	30	3	
		E-Business Analysis and Design	30	3	
		Digital Business Management	30	4	
		Fundamentals of User Experience Design	30	3	
	2	Introduction to Computer Systems	30	3	
		Foundations in IT Professionalism	30	3	
		Research Methods for Computing	30	3	
		Introduction to Human Computer Interaction	30	3	
		Project Management	30	3	
Digital Business Innovation		30	3		
Career Planning - Seminar	-	0			
Year 03	1	Group Project (UX/UI - Year Long)	-	8	33
		Research Methods for Computing	30	3	
		UX Design Disciplines	30	3	
		Human-Centred Design Methods	30	3	
		Prototyping Design for Experience	30	3	
		Software Quality Assurance Fundamentals	30	4	
	2	Professional Internship	-	9	
Year 04	1	Final Project (Year Long)	-	8	31
		Software Quality Assurance	30	4	
		User Experience Design in Organizations	30	4	
		Futures Thinking and Emerging Technology	30	3	
	2	Visual Communication	30	3	
		Distributed Computing Systems	30	3	
		Designing for Virtual Reality	30	3	
		Analysis and Design of Web Info Systems	30	4	
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Resource Panel

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Dr. Ruwan Wickramaarachchi	
Dr. Nalaka Lankasena	
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Dr. Pradeep Kalansooriya	Kotalawala Defence University
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Dr. Upul Dissanayake	
Dr. Abbas Kamardeen	
Dr. Ranil Rajapakshe	
Dr. Charith Giragama	
Dr. M. Ransith Fernando	
Dr. Ruwan Amarasekera	
Dr. Damitha Jayasinghe	
Dr. L.G.H. Karunarathne	
Dr. Prabath S. Wickramarathne	
Dr. Dayan Rajapakshe	
Dr. Hasith Yaggahawita	
Dr. Mohammed Fawaz	
Mr. Indika de Zoysa	
Mr. Abaya Ranaweera	
Mr. S.K. Vajeendra	
Mr. S.Shageevan	