O‘zbekiston Respublikasi
Oliy ta’lim, fan va innovatsiyalar vazirligi

60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) bakalavriat ta’lim yo‘nalishining malaka talablari

Toshkent-2026 yil

O‘zR OTFIV
Buyruq № 357
2026 yil “22” 08

ISHLAB CHIQILGAN:

Toshkent davlat agrar universiteti.

TASDIQLANGAN VA AMALGA KIRITILGAN:

O‘zbekiston Respublikasi Oliy ta’lim, fan va innovatsiyalar vazirligining 2026 yil «22» 08 dagi 357- sonli buyrug‘i bilan tasdiqlangan.

JORIY ETILGAN:

O‘zbekiston Respublikasi Oliy ta’lim, fan va innovatsiyalar vazirligi.

Mazkur Malaka talablari “Oliy ta’lim davlat ta’lim standarti. Asosiy qoidalar”, “Oliy ta’lim davlat ta’lim standarti. Oliy ta’lim yo‘nalishlari va mutaxassisliklari klassifikatori”, O‘zbekiston Respublikasi Milliy va tarmoq malaka doiralari (ramkasi), kasbiy standartlar va kadrlar buyurtmachilari takliflariga muvofiq ishlab chiqilgan va rasmiy me’yoriy-uslubiy hujjat hisoblanadi.

O‘zbekiston Respublikasi hududida Malaka talablarini rasmiy chop etish huquqi O‘zbekiston Respublikasi Oliy ta’lim, fan va innovatsiyalar vazirligiga tegishlidir.

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1. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) bakalavriat ta’lim yo‘nalishining umumiy tasnifi

60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha*)* ta’lim yo‘nalishi bo‘yicha bakalavrlar tayyorlash kunduzgi va kechki ta’lim shakllarida amalga oshiriladi. Barcha ta’lim shakllari bo‘yicha o‘qitish kredit-modul tizimi shakllarida tashkil qilinadi. Kunduzgi ta’limda bakalavriat dasturining me’yoriy muddati 4 yil.

1.1. Qo‘llanish sohasi

1.1.1. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi Malaka talabining qo‘llanlishi**.**

Malaka talabi **60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha)** ta’lim yo‘nalishi bo‘yicha bakalavrlar tayyorlovchi barcha oliy ta’lim muassasalari uchun talablar majmuini ifodalaydi.

1.1.2. Malaka talablarining asosiy foydalanuvchilari:

– mazkur ta’lim yo‘nalish bo‘yicha malaka talablari, o‘quv reja va o‘quv dasturlarini ishlab chiqish va yangilash, ular asosida o‘quv jarayonini samarali amalga oshirish uchun ma‘sul hamda o‘z vakolat doirasida bitiruvchilarning tayyorgarlik darajasiga javob beradigan oliy ta’lim tashkilotining boshqaruv xodimlari (rektor, prorektorlar, o‘quv bo‘limi boshlig‘i, dekanlar va kafedra mudirlari) va professor - o‘qituvchilari;

– ta’lim yo‘nalishining o‘quv reja va fan dasturlarini o‘zlashtiruvchi oliy ta’lim tashkilotining talabalari;

– bakalavriat bitiruvchilarining tayyorgarlik darajasini baholashni amalga oshiruvchi Davlat attestatsiya komissiyalari;

– ta’limni boshqarish bo‘yicha vakolatli davlat organlari;

– oliy ta’lim tashkilotini moliyalashtirishni ta’minlovchi organlar;

– oliy ta’lim tizimini akkreditatsiya va sifatini nazorat qiluvchi vakolatli Davlat organlari;

– kadrlar buyurtmachilari va ish beruvchi tashkilot va korxonalar;

– oliy ta’lim tashkilotlariga o‘qishga kirayotgan abiturientlar, ularning ota-onalari va boshqa manfaatdor shaxslar.

1.2. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha*)* ta’lim yo‘nalishi bo‘yicha bakalavrlar kasbiy faoliyatlarining tasnifi

1.2.1. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi bo‘yicha bakalavrlar kasbiy faoliyatining sohalari.

60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) bakalavriyat ta’lim yo‘nalishi – “Qishloq xo‘jaligi” ta’lim sohasiga oid yo‘nalish bo‘lib, yer, suv, energetik va moddiy - texnika resurslaridan samarali foydalanishni oshirish maqsadida meva-sabzavot va uzum mahsulotlarini tayyorlash, saqlash va qayta ishlash; qishloq xo‘jaligi mahsulotlarini saqlash va qayta ishlash jarayonlarini optimallashtirish, tayyorlangan, saqlangan va qayta ishlangan qishloq xo‘jalik mahsulotlari sifatini oshirish, kasbiy faoliyatida texnik vositalardan oqilona foydalanish usul va uslublari yig‘indisini o‘z ichiga oladi.

1.2.2. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi bo‘yicha bakalavrlar kasbiy faoliyatlarining obyektlari:

- davlat va nodavlat tashkilot, korxona va muassasalar, ishlab chiqarish boshqarmalari va boshqalar;

- qishloq xo‘jaligi mahsulotlarini saqlash, qayta ishlash, qadoqlash, quritishga ixtisoslashtirilgan xo‘jalik subyektlari, ishlab chiqarish korxonalari, agroklasterlar, kooperatsiyalar;

- yer, suv, energetik va moddiy – texnika resurslari, meva-sabzavotlarni qayta ishlash texnologiyasi, qo‘shimcha kimyoviy va biologik vositalar;

- texnik asbob uskunalar;

- qishloq xo‘jalik tizimidagi ishlab chiqarish jarayonlari;

- qishloq xo‘jaligi mahsulotlarini saqlash va qayta ishlash jarayonlari;

- ilmiy-tadqiqot jarayonlari;

- qishloq xo‘jalik mahsulotlarini tayyorlash, saqlash va qayta ishlash korxonalari va tashkilotlarining boshqaruv tizimlari.

60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) yo‘nalish bo‘yicha bakalvriat bitiruvchilari pedagogik qayta tayyorlashdan o‘tgandan keyin, professional ta’lim muassasalarida ta’limning vakolatli boshqaruv organlari tomonidan aniqlanadigan umumkasbiy va ixtisoslik fanlarini o‘qitish bo‘yicha pedagogik faoliyati bilan shug‘ullanish huquqiga ega bo‘ladi. Bakalavriatning kasb ta’limi yo‘nalishlari bundan mustasno.

1.2.3. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi bo‘yicha bakalavrlar kasbiy faoliyatlarining turlari:

- Tashkiliy – boshqaruv.
- ishlab chiqarish va xizmat ko‘rsatish;
- axborot – tahliliy faoliyat;
- ilmiy – tadqiqot faoliyati;
- loyiha – texnologik faoliyat;
- texnologik – ishlab chiqarish;
- tadbirkorlik.

1.2.4. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi bo‘yicha bakalavrlarning kasbiy vazifalari.

60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi bo‘yicha Milliy malaka ramkasining 6-malaka darajasi hamda bakalavr kasbiy faoliyatlarining sohalari, obyektlari va turlariga muvofiq bakalavriat bitiruvchisi quyidagi kasbiy vazifalarni bajarishga qodir bo‘lishi lozim:

Tashkiliy – boshqaruv faoliyatida:

- qishloq xo‘jaligi ishlab chiqarishida qo‘llanilayotgan zamonaviy saqlash va qayta ishlashga tegishli texnologiya va jixozlardan foydalanishning samaradorligi ko‘rsatkichlarini hisoblash va baholash;

- ishlab chiqarish jarayonlarini amalga oshirish uchun zarur bo‘lgan moddiy va mehnat resurslarini rejalashtirish;

- ishlab chiqarish jarayonini boshqarish;

- boshqaruv qarorini qabul qilish;

- zamonaviy axborot texnologiyalari tizimlaridan foydalangan holda ishlab chiqarish jarayonlari monitoringi va sifatini baholash metodlari hamda mexanizmlarini ishlab chiqish;

- atrof-muhitni muhofaza qilish va hayotiy faoliyat xavfsizligi, texnika xavfsizligi talablari asosida ishlab chiqarish jarayonlarini monitoringini yuritish;

- kasbiy muammolar yechimini topish;

- ijrochilar jamoasi ishini tashkil qilish;

- fikrlar xilma-xilligi sharoitida boshqaruv qarorini qabul qilish;

- birlamchi ishlab chiqarish ishini tashkil qilish va uni boshqarish;

- bajarayotgan faoliyati bo‘yicha ish rejasini tuzish va uni bajarish, nazorat qilish va amalga oshirgan ishining natijalarini baholash;

Ishlab chiqarish texnologik va xizmat ko‘rsatish faoliyatda:

- qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlashga tegishli texnologiya va texnik vositalardan foydalanish;
- qishloq xo‘jalik mahsulotlarini zamonaviy saqlash omborlarida sifatli saqlashni tashkil etish;
- qishloq xo‘jalik mahsulotlarini innovatsion texnologiyalarni qayta ishlashda qo‘llash;
- qayta ishlangan qishloq xo‘jalik mahsulotlarini qadoqlash va realizasiya qilish;
- qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlashda ilmiy asoslangan tizimlarni qo‘llash va tavsiya qilish;
- yangi samarali texnologiyalarni ishlab chiqish va ulardan oqilona foydalanish;
- xizmat ko‘rsatish sohasida me’yoriy- huquqiy hujjatlardan foydalana olish;
- qishloq xo‘jalik mahsulotlarini tayyorlash, saqlash va qayta ishlash bo‘yicha servis xizmati ko‘rsatish;
-qishloq xo‘jaligi mahsulotlarini saqlash va qayta ishlash bo‘yicha texnologlarga maslahatlar berish.

Axborot tahliliy faoliyatida:

- texnologik jarayonlarni bajarish sifatini nazorat qilish;
- zamonaviy axborot texnologiyalari, kompyuter texnikalari va kommunikatsion vositalarni amaliyotda keng qo‘llash;
- ilg‘or texnologik jarayonlarni qo‘llash;
- ilmiy asoslangan tizimlarni qo‘llash va tavsiyanomalar berish;
- yangi samarali texnologiyalarni ishlab chiqish va oqilona foydalanish;
- tabiiy resurslarni muhofaza qilish va hayot faoliyati xavfsizligi qoidalarini ta’minlash.

Ilmiy - tadqiqot faoliyatida:

- yangi bilimlarni mustaqil egallay bilishi, o‘z ustida ishlash va mehnat faoliyatini ilmiy asosda tashkil qila olishi;
- muammolarni hal etishga va qaror qabul qilishga tayyorgarlik, bilimlarni amaliyotda qo‘llash, ish samaradorligi va sifatiga javobgarlik;
- respublika va xorijda chop etilgan qishloq xo‘jalik mahsulotlarini qayta ishlashga oid ilmiy-texnik axborotlarning ilmiy manbalarini o‘rganish;
- ilmiy – tadqiqot ishlarini bajarishda bevosita ishtirok etish;
- mavzu (topshiriq) bo‘yicha ilmiy ma’lumotlarni yig‘ish, ishlov berish, tahlil qilish va olingan malumotlarni tizimlashtirishda ishtirok etish;
- tadqiqot natijalari va ishlanmalarni tatbiq etishda qatnashish.

Loyiha - texnologik va texnologik ishlab chiqarish faoliyatida:

- qishloq xo‘jaligi mahsulotlarini saqlash va qayta ishlash bo‘yicha loyihalar tuzish mehnat jamoasi shakllantirish va ishlab chiqarish jarayonlarini boshqarish;
- saqlash omborlari va qishloq xo‘jalik mahsulotlarini qayta ishlash korxonalarini loyihalash uchun zaruriy tayyorgarlik;
- faoliyat natijalarini tahlil va sintez qilish, tashkil etish va rejalashtirish, baholash, fundamental, umumkasbiy va amaliy bilimlardan foydalanish qobiliyati va ularga tayyorgarlik;
- mustaqil ishlash qobiliyati, ish jarayonlarini identifikatsiyalash va mahoratdan foydalanish;
- loyihaviy va dasturiy hujjatlarni ishlab chiqish;
- amaliyotda axborot texnologiyalarining halqaro va kasbiy standartlarni, zamonaviy uslublarini, instrumental va hisoblash vositalarini tayyorgarlik ixtisosligiga mos ravishda qo‘llash.

Tadbirkorlik faoliyatida:

- soha doirasida yangi biznes - loyihalarni shakllantirish va amalga oshirish;
- soha doirasida biznesni tashkil etish, biznes-rejalarni ishlab chiqish va amalga oshirish.

2. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi bo‘yicha bakalavrlarning kasbiy kompetensiyalariga talablar

2.1. Umumiy kompetensiyalar:

- davlat siyosatining dolzarb masalalarini bilish, ijtimoiy - iqtisodiy muammolar va jarayonlarni mustaqil tahlil qila olish;
- xorijiy tillardan birida kasbiy faoliyatiga oid hujjatlar va ishlar mohiyatini tushunishi,

tabiiy ilmiy fanlar bo‘yicha kasbiy faoliyati doirasida zaruriy bilimlarga ega bo‘lishi hamda ulardan zamonaviy ilmiy asosda kasb faoliyatida foydalana bilish;

- axborot texnologiyalarini kasbiy faoliyatida qo‘llay bilishi, axborotlarni yig‘ish, saqlash, qayta ishlash va ulardan foydalanish usullarini egallagan bo‘lishi, faoliyatida mustaqil asoslangan qarorlar qila olish;
- yangi bilimlarni mustaqil egallay bilishi, o‘z ustida ishlashi va mehnat faoliyatini ilmiy asosda tashkil qila olish;
- sog‘lom turmush tarzi va unga amal qilish zaruriyati to‘g‘risida tasavvurga ega bo‘lish.

2.1.1. Milliy malaka ramkasi va Yevropa malakalar doirasining 6-darajasiga muvofiq bitiruvchi quyidagi tadqiqotchilik hamda ijtimoiy kompetensiyalar:

- ilmiy va amaliy muammolarni aniq savol va asoslangan gipoteza shaklida ifodalaydi; tadqiqot metodini tanlaydi, kuzatuv yoki tajribani rejali tashkil qiladi;
- ishonchli manbalarni izlaydi, ma’lumotlarni to‘playdi, tegishli hisoblash va tahlil usullari bilan qayta ishlaydi, natijalarning cheklovlarini baholaydi;
- fan doirasida kichik tadqiqot yoki amaliy loyihani mustaqil rejalashtiradi, ilmiy xulosa va amaliy tavsiya ishlab chiqadi, natijalarni dalillar bilan himoya qiladi;
- ko‘p tarmoqli jamoalarda hamkorlik qiladi, kasbiy muloqot va taqdimot usullaridan foydalanadi, manfaatdor tomonlarning ehtiyojlarini inobatga oladi;
- kasbiy etika, xavfsizlik, ijtimoiy mas’uliyat va ekologik barqarorlik talablariga rioya qilgan holda dalillarga asoslangan qaror qabul qiladi.

2.2. Kasbiy kompetensiyalar:

- qishloq xo‘jalik mahsulotlarini qayta ishlashda mehnatni muhofaza qilish va hayot faoliyati xavfsizligi, texnika xavfsizligi talablari asosida ishlab chiqarish jarayonlarini monitoring nazorat qilish;
- sohaga oid muammolarni yechimini topish;
- ijrochilar jamoasi ishini tashkil qilish;
- fikrlar xar xil bo‘lgan sharoitda boshqaruv qarorini qabul qilish;
- birlamchi ishlab chiqarish zveno ishini tashkil qilish va uni boshqarish;
- bajarayotgan faoliyati bo‘yicha ish rejasini tuzish, bajarish va nazorat qilish hamda ish natijalarini baholash;
- qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash bo‘yicha zamonaviy qurilmalardan foydalanish;
- qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash korxonasida texnologik jarayonlarni boshqarish
- dastlabki ishlangan qishloq xo‘jalik mahsulotlarini ishlab chiqarishni samarali va resurs tejamkor faoliyatni tashkil etish.

2.2.1. 60811300 — Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) bakalavriat ta’lim dasturining o‘lchanadigan yakuniy ta’lim natijalari

Kasbiy va sohaviy bilimlarni qo‘llash:

- qishloq xo‘jalik mahsulotlarining fizik-kimyoviy va sensorik sifat ko‘rsatkichlarini belgilangan usullarda o‘lchaydi hamda me’yoriy talablar bilan qiyoslab baholaydi;
- mahsulot turi, harorat, namlik va saqlash muddati uchun optimal saqlash rejimini tanlaydi, texnologik parametrlarni hisoblaydi va nazorat rejasini ishlab chiqadi;
- don, meva-sabzavot va boshqa xomashyo uchun qayta ishlash yoki quritish

texnologiyasini tanlaydi, texnologik ketma-ketlikni chizadi va yechimni asoslaydi.

Ilmiy-tadqiqot va tahliliy kompetensiyalar:

- saqlash va qayta ishlashdagi mahsulot yo‘qotilishi yoki sifat o‘zgarishiga oid tekshiriladigan gipotezani qo‘yadi, maqsad, omillar va tajriba uslubini tanlaydi.
- tajriba partiyalarini va nazorat namunalarini shakllantiradi, saqlash sharoitlarini qayd etadi, o‘lchash xatoliklari va takrorlanuvchanlikni tekshiradi.
- sifat, massa yo‘qotilishi va texnologik samaradorlik ma’lumotlarini hisoblaydi, raqamli jadval va grafiklarda ifodalaydi, variantlarni son jihatdan taqqoslaydi.
- sifat nazorati va texnologik tajriba natijalarini amaldagi standartlar va ilmiy manbalar bilan taqqoslaydi, cheklovlarni ko‘rsatadi va ilmiy asoslangan xulosa chiqaradi.
- qayta ishlash jarayonini takomillashtirish bo‘yicha kichik amaliy loyiha yaratadi, texnik yechimni hisoblaydi, natijalarni hisobotda ifodalaydi va himoya qiladi.

Ijtimoiy, kommunikativ va mas’uliyat kompetensiyalari:

- saqlash va qayta ishlash jarayonidagi jamoaviy topshiriqlarni muvofiqlashtiradi, vazifalarni taqsimlaydi, ishlab chiqarishdagi axborot almashinuvini tashkil etadi.
- saqlash rejimi, sifat ko‘rsatkichlari va texnologik tavsiyalarni ishchilar, mutaxassislar hamda buyurtmachilarga tushunarli ravishda yozma va og‘zaki taqdim etadi.
- mahsulot xavfsizligi, iste’molchi manfaatlari, gigiyena va ekologik mas’uliyat bilan bog‘liq texnologik xavflarni aniqlaydi hamda oldini olish choralarini asoslaydi.
- energiya va xomashyo sarfi, chiqindi miqdori hamda tashkiliy samaradorlikni taqqoslaydi, barqaror va iqtisodiy asoslangan texnologik qarorni taklif qiladi.

2.3. Umumiy va kasbiy kompetentsiyalarni egallashni ta‘minlaydigan fanlar va amaliyotlarga qo‘yiladigan talablar

Talabalar umumiy va kasbiy kompetentsiyalar, bilim va ko‘nikmalarni egallashi o‘quv rejasiga mantiqiy ketma-ketligida kiritiladigan **majburiy va tanlov** fanlarni o‘zlashtirish, amaliyotlarni o‘tish hamda boshqa o‘quv mashg‘ulot va akademik vazifalarni bajarish yordamida amalga oshiriladi.

Majburiy fanlar – bakalavriat ta’lim yo‘nalishi bo‘yicha bevosita umumiy va kasbiy kompetentsiyalarni egallashga qaratilgan, zarur tayanch bilim va ko‘nikmalarni ta‘minlaydigan fanlar majmuasidir.

Tanlov fanlar – ta’lim yo‘nalishi doirasida ixtisoslashuvdan kelib chiqib chuqurlashtirilgan, qo‘shimcha bilim berish, bevosita ixtisosligi uchun zarur kompetentsiyalarni kengaytirishga xizmat qiladigan, shuningdek, talabaning shaxsiy qiziqishlari, ijodiy yondashuvlari va iqtidorini qo‘llab quvvatlashga qaratilgan fanlar majmuasidir.

Ta’lim yo‘nalishi bo‘yicha quyidagi amaliyotlar o‘tkaziladi:

malakaviy amaliyot – umumkasbiy va ixtisoslik fanlaridan nazariy bilimlarni mustahkamlash va amaliy (ishlab chiqarish) jarayonlari bilan uyg‘unlashtirish, tegishli amaliy ko‘nikmalar, kompetentsiyalar va malakalarni shakllantirishga qaratilgan.

2.3.1. Kvalifikatsiya: *Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologi.*

2.3.2. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) ta’lim yo‘nalishi uchun ajratilgan o‘quv fanlari, bloklar bo‘yicha soatlar va kreditlar:

O‘quv fanlari, bloklar va faoliyat turlarining nomlari	Kunduzgi ta’lim shakli uchun fanlarga ajratilgan soat	Ajratilgan kredit
Majburiy fanlar	5220	174
Tanlov fanlar	1200	40
Malakaviy amaliyotlar	660	22
Bitiruv malakaviy ishi (BMI)	120	4

2.3.3. 60811300 – Qishloq xo‘jalik mahsulotlarini saqlash va qayta ishlash texnologiyasi (mahsulot turlari bo‘yicha) bakalavriat ta’lim yo‘nalishi bo‘yicha ta’lim dasturining tuzilishi

T.r	Fanning malakaviy kodi	O‘quv fanlari, bloklar va faoliyat turlarining nomlari	Umumiy yuklamaning hajmi, soatlarda	Kredit miqdori	Semestri
1.00		**Majburiy fanlar**	**5220**	**174**	
1.01	O‘EYTB1104	O‘zbekistonning eng yangi tarixi	120	4	1
1.02	DINB1204	Dinshunoslik	120	4	2
1.03	FALB1504	Falsafa	120	4	5
1.04	XJTNB1108	Xorijiy til	240	8	2
1.05	O‘T O‘SQB1204	O‘zbek (rus) tili: O‘zbek tilini sohada qo‘llash	120	4	2
1.06	JMSB1104	Jismoniy madaniyat va sport	120	4	1
1.07	OMTB1104	Oliy matematika	120	4	1
1.08	ANFKBKB1206	Analitik, fizkolloid va bioorganik kimyo	180	6	2
1.09	BO‘FZB1208	Botanika va o‘simliklar fiziologiyasi	240	8	1,2
1.10	MTKB1106	Mutaxassislikka kirish	180	6	1
1.11	MXKGB1104	Muhandislik va kompyuter grafikasi	120	4	1
1.12	ITQXIFB1206	Issiqlik texnikasi va qishloq xo‘jaligida issiqlikdan foydalanish	180	6	2
1.13	QXMSQIMB1308	Qishloq xo‘jaligi mahsulotlarini saqlash va qayta ishlashni mexanizatsiyalashtirish	240	8	3,4
1.14	ETRASB1308	Elektrotexnika va raqamlashtirish asoslari	240	8	3,4
1.15	MEVSABB1308	Mevachilik va sabzavotchilik	240	8	3,4
1.16	DHO‘SHB1312	Dehqonchilik va o‘simlikshunoslik	360	12	3,4
1.17	CHMSQITB1506	Chorvachilik mahsulotlarini saqlash va qayta ishlash texnologiyasi	180	6	5
1.18	QXMSSB1508	Qishloq xo‘jaligi mahsulotlarini standartlashtirish va sertifikatlash	240	8	5,6
1.19	MSSQITB1510	Meva-sabzavotlarni saqlash va qayta ishlash texnologiyasi	300	10	5,6
1.20	QXMSOB1508	Qishloq xo‘jaligi mahsulotlari saqlash omborlari	240	8	5,6
1.21	QXMSSBB1706	Qishloq xo‘jaligi mahsulotlari sifatini sensorik baholash	180	6	7
1.22	TMEXASDITB1708	Texnik va moyli ekinlari xom ashyosini saqlash va dastlabki ishlash texnologiyasi	240	8	7,8
1.23	DSQITB1708	Donni saqlash va qayta ishlash texnologiyasi	240	8	7,8

1.24	QXMQIKJLAB 1708	Qishloq xo‘jaligi mahsulotlarini qayta ishlash korxonalarini jihozlari va loyihalash asoslari	240	8	7,8
1.25	QXMQTTB1804	Qishloq xo‘jalik mahsulotlarini quritish texnikasi va texnologiyasi	120	4	8
1.26	QXICHTQTB 1804	Qishloq xo‘jaligida ishlab chiqarishni tashkil qilish va tadbirkorlik	120	4	8
1.27	QXMQB1806	Qishloq xo‘jaligi mahsulotlarini qadoqlash	180	6	8
2.00		**Tanlov fanlar**	**1200**	**40**	
2.00		Tanlov fanlar	1200	40	3,4,5,6
		Jami	**6420**	**214**	
	MALAMAL1222	Malakaviy amaliyotlar	660	22	2,4,6,7
		Bitiruv malakaviy ishi (BMI)	120	4	8
		Jami	**780**	**26**	
		HAMMASI	**7200**	**240**	

Bibliografik ma‘lumotlar

UO‘K: 664.8 Guruh T 55

OKS 01.040.01

Tayanch so‘zlar:

Qishloq xo‘jalik mahsulotlarini saqlash, qayta ishlash, qadoqlash, quritish, sensorik baholash, ilg‘or texnologik jarayonlar, texnik vositalar, presslash, meva-sabzavot va uzum mahsulotlari, saqlangan va qayta ishlangan qishloq xo‘jalik mahsulotlari sifatini oshirish, kasbiy faoliyat turi, kompetensiya, ta’lim yo‘nalishi, kasbiy faoliyat obyekti, kasbiy faoliyat sohasi, bakalavriatning asosiy o‘quv rejasi va fan dasturi, o‘quv jarayoni, loyiha-texnologik, pedagogik, ilmiy-pedagogik ish, malaka amaliyoti, bitiruv malakaviy ish, baholash, sifat nazorati, mustaqil ta’lim, o‘quv fanlari bloki, mundarija, oliy ta’lim muassasasi, ta’lim jarayoni, ishlab chiqarish, loyihalash, ilmiy-tadqiqot jarayonlari.

MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATION OF THE REPUBLIC OF UZBEKISTAN

Qualification requirements for the bachelor's degree program 60811300 - Technology of storage and processing of agricultural products (by product type)

Tashkent-2026

Developed by:

Tashkent State Agrarian University .

APPROVED AND IMPLEMENTED:

Republic of Uzbekistan ***Approved by the order*** of the Ministry of Higher Education, Science and Innovation No. ____ dated "___" _____, 202 6 .

CURRENTLY APPLIED:

of Higher Education, Science and Innovations of the Republic of Uzbekistan.

These Qualification Requirements are developed in accordance with the "State Educational Standard of Higher Education. Basic Rules", "State Educational Standard of Higher Education. Classifier of Areas and Specialties of Higher Education ", National and Sectoral Qualification Frameworks (Framework) of the Republic of Uzbekistan, professional standards and proposals of personnel customers and are considered official regulatory and methodological documents.

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1. 60811300 – Technology of storage and processing of agricultural products (by product type) General classification of undergraduate education

60811300 – Technology of storage and processing of agricultural products (by product type *)* is carried out in full-time and evening forms of education. Training in all forms of education is organized in the form of a credit-module system. The standard duration of a bachelor's program in full-time education is 4 years.

1.1 . Scope

1.1.1. 60811300 – Agricultural Product Storage and Processing Technology (by product type) Educational Direction Application of Qualification Requirements **.**

Qualification requirement **60811300 – Technology of storage and processing of agricultural products (by product type)** It represents a set of requirements for all higher education institutions that prepare bachelor's degrees in the field of education.

1.1.2. The main users of qualification requirements are:

–heads of departments) and professors of the higher education organization, who are responsible for the development and updating of qualification requirements, curricula and training programs for this educational area, and for the effective implementation of the educational process based on them, and who are responsible for the level of preparation of graduates within their competence ;

–develops the curriculum and subject programs of the educational field ;

– State Attestation Commissions that assess the level of preparation of bachelor's degree graduates;

– state bodies responsible for managing education ;

– bodies providing funding for higher education institutions ;

– authorized state bodies responsible for accreditation and quality control of the higher education system;

–personnel customers and employing organizations and enterprises;

–entering higher education institutions , their parents and other interested parties.

1.2. 60811300 – Technology of storage and processing of agricultural products (by product type *)* Classification of professional activities of bachelors by educational field

1.2.1. 60811300 – Technology of storage and processing of agricultural products (by product type) areas of professional activity of bachelors in the field of education.

60811300 – Technology of storage and processing of agricultural products (by product type) bachelor's degree program – is a program related to the field of education "Agriculture" and includes a set of methods and techniques for the preparation, storage and processing of fruit, vegetable and grape products in order to increase the effective use of land, water, energy and material and technical resources; optimization of the processes of storage and processing of agricultural products, improving the quality of prepared, stored and processed agricultural products, and rational use of technical means in professional activities.

1.2.2. 60811300 – Technology of storage and processing of agricultural products (by product type) ***Objects of professional activity of bachelors in the*** field of education :

- state and non-state organizations, enterprises and institutions, production departments, etc.;

economic entities, manufacturing enterprises, agroclusters, cooperatives specializing in the storage, processing, packaging, and drying of agricultural products ;

- land, water, energy and material and technical resources, fruit and vegetable processing technology, additional chemical and biological agents;

- technical equipment;

- production processes in the agricultural system;

- storage and processing processes of agricultural products;

- research processes;

- management systems of enterprises and organizations for the preparation, storage and processing of agricultural products.

60811300 - Technology of storage and processing of agricultural products (by product type) after undergoing pedagogical retraining have the right to engage in pedagogical activities in teaching general and specialized subjects determined by the authorized educational management bodies in vocational educational institutions . With the exception of vocational education areas of the bachelor's degree.

1.2.3. Types of professional activities of bachelors in the educational field **60811300 - Technology of storage and processing of agricultural products (by product type)** :

-Organizational – head protection .

-production and service *;*

-information and analytical activities;

-scientific – research activities;

-oh my god – technological activity;

-technological – work out ;

-entrepreneurship .

1.2.4. 60811300 – Technology of storage and processing of agricultural products (by product type) professional duties of bachelors in education .

60811300 – Technology of storage and processing of agricultural products (by product type) In accordance with the 6th qualification level of the National Qualifications Framework and the areas, objects and types of bachelor's professional activities in the field of education, a bachelor's degree graduate must be able to perform the following professional tasks:

Organizational – *in* **management activities :**

calculation and assessment of efficiency indicators of the use of modern storage and processing technologies and equipment used in agricultural production ;

- planning of material and labor resources necessary for the implementation of production processes;

- production process management;

- making a management decision;

- development of methods and mechanisms for monitoring and quality assessment of production processes using modern information technology systems;

- monitoring of production processes based on environmental protection and life safety, technical safety requirements;

- find solutions to professional problems;

- organizing the work of the performing team;

- making management decisions in the face of diversity of opinions;

- organization and management of primary production work;

- drawing up a work plan for the activities performed and its implementation, monitoring and evaluating the results of the work performed;

In production, technological and service activities:

- use of technologies and technical means for the storage and processing of agricultural products ;

- organization of high-quality storage of agricultural products in modern storage warehouses ;

- application of innovative technologies in the processing of agricultural products;

- packaging and sale of processed agricultural products;

- application and recommendation of scientifically based systems for the storage and processing of agricultural products ;

- development of new effective technologies and their rational use;

regulatory and legal documents in the field of service provision ;

provision of services for the preparation, storage and processing of agricultural products ;

-Providing advice to technologists on the storage and processing of agricultural products.

In information analysis activities:

-control the quality of technological processes;

-use of modern information technologies, computer equipment and communication tools in practice ;

-use of advanced technological processes ;

-applying scientifically based systems and providing recommendations;

-development and rational use of new effective technologies;

-**protection of natural resources and ensuring the safety of life activities.**

In scientific and research activities **:**

- be able to independently acquire new knowledge, work on oneself , and organize work activities on a scientific basis;

- readiness to solve problems and make decisions, apply knowledge in practice , and be responsible for the efficiency and quality of work;

study of scientific sources of scientific and technical information on the processing of agricultural products published in the republic and abroad ;

- direct participation in scientific research ;

collection , processing, analysis and systematization of scientific data on the topic (task) ;

- participation in the implementation of research results and developments.

Project - in technological and technological production activities :

- drawing up projects for the storage and processing of agricultural products, forming a work team and managing production processes;

- necessary preparation for the design of storage facilities and agricultural processing enterprises;

- the ability and preparation for analysis and synthesis, organization and planning, evaluation of activity results, use of fundamental, general professional and practical knowledge;

- ability to work independently , identification of work processes and use of skills;

- development of design and software documentation;

- apply in practice international and professional standards, modern methods, instrumental and computational tools of information technology in accordance with the specialty of training .

In entrepreneurial activity:

- formation and implementation of new business projects within the industry;

- organizing a business within the industry , developing and implementing business plans.

2. 60811300 – Technology of storage and processing of agricultural products (by product type) Requirements for professional competencies of bachelors in the field of education

2.1. General competencies:

- knowledge of current issues of state policy, ability to independently analyze socio-economic problems and processes;

- understand the essence of documents and work related to professional activities in one of the foreign languages,

have the necessary knowledge in the natural sciences within the framework of professional activities and to be able to use them in professional activities on a modern scientific basis;

to use information technologies in their professional activities , master the methods of collecting, storing, processing and using information , and be able to make independent, informed decisions in their activities;

- be able to independently acquire new knowledge, work on oneself , and organize work activities on a scientific basis;

- to have an idea about a healthy lifestyle and the need to follow it .

2.1.1 . In accordance with the National Qualifications Framework and level 6 of the European Qualifications Framework, the graduate will have the following research and social competencies:

- expresses scientific and practical problems in the form of clear questions and well-founded hypotheses; chooses a research method, systematically organizes observations or experiments;

- searches for reliable sources, collects data, processes it with appropriate calculation and analysis methods, and assesses the limitations of the results;

- independently plans a small research or practical project within the framework of science, develops a scientific conclusion and practical recommendations, and defends the results with evidence;

- collaborates in multidisciplinary teams, uses professional communication and presentation techniques, and takes into account the needs of stakeholders;

- Makes evidence-based decisions while adhering to professional ethics, safety, social responsibility, and environmental sustainability requirements.

2.2. Professional competencies:

- monitoring and control of production processes based on labor protection and life safety, technical safety requirements in the processing of agricultural products;

- find solutions to industry-related problems;

- organizing the work of the performing team;

- making management decisions in conditions of differing opinions ;

- organization and management of the primary production unit;

- drawing up, implementing and monitoring a work plan for the activities performed, and evaluating the results of the work;

-use of modern devices for storing and processing agricultural products;

-management of technological processes in an agricultural product storage and processing enterprise

-to organize the production of primary agricultural products in an efficient and resource-saving manner.

2.2.1. 60811300 — Technology of storage and processing of agricultural products (by product type) measurable final learning outcomes of the bachelor's degree program

Application of professional and industry knowledge:

- measures the physicochemical and sensory quality indicators of agricultural products using established methods and evaluates them in comparison with regulatory requirements;

- selects the optimal storage mode for the type of product, temperature, humidity and shelf life, calculates technological parameters and develops a control plan;

- **selects** processing or drying technology for grains, fruits, vegetables, and other raw materials, draws a technological sequence, and justifies the solution.

Research and analytical competencies:

- formulates a testable hypothesis regarding product loss or quality change during storage and processing, selects the objective, factors, and experimental method.

- forms experimental batches and control samples, records storage conditions, checks measurement errors and repeatability.

- calculates quality, mass loss and technological efficiency data, presents them in numerical tables and graphs, and compares options numerically.

- compares the results of quality control and technological experimentation with current standards and scientific sources, indicates limitations, and draws scientifically based conclusions.

- creates a small practical project to improve the processing process, calculates a technical solution, presents and defends the results in a report.

Social, communicative and responsibility competencies:

- Coordinates team tasks in the storage and processing process, distributes tasks, and organizes information exchange in production.

- provides storage conditions, quality indicators, and technological recommendations to

workers, specialists, and customers in a clear and understandable manner, both in writing and orally.

- identifies technological risks related to product safety, consumer interests, hygiene and environmental responsibility and justifies preventive measures.

- compares energy and raw material consumption, waste volume, and organizational efficiency, and proposes a sustainable and economically sound technological solution.

2.3. **Requirements for disciplines and practices that ensure the acquisition of general and professional competencies**

acquire general and professional competencies, knowledge, and skills through the logical sequence of compulsory and elective subjects included in the curriculum , **through** internships , and through the completion of other training and academic tasks.

Compulsory subjects are a set of subjects that provide the necessary basic knowledge and skills, aimed at acquiring general and professional competencies directly related to the bachelor 's degree program .

Elective subjects are a set of subjects that are deepened based on specialization within the educational field, serve to provide additional knowledge, expand the competencies necessary for the direct specialty, and also support the student's personal interests, creative approaches, and talents .

The following internships are held in the educational field :

Qualified practice - aimed at strengthening theoretical knowledge in general and specialized disciplines and combining it with practical (production) processes, and forming relevant practical skills, competencies and qualifications.

2.3.1 . Qualification : *Agricultural products storage and processing technologist.*

2.3.2. 60811300 – Technology of storage and processing of agricultural products (by product type) Academic subjects, hours and credits by blocks allocated for the educational field:

Names of academic subjects, blocks and types of activities	Hours allocated to subjects for full-time education	Allocated credit
Compulsory subjects	5220	174
Elective subjects	1200	40
Qualifying internships	660	22
Graduation qualification work (BMI)	120	4

2.3.3. 60811300 – Technology of storage and processing of agricultural products (by product type) bachelor's degree structure of the educational program in the field of education

Tr	Science qualification code	of subjects , blocks and types of activities	Total load volume, in hours	Loan amount	Semester
1.00		**Compulsory subjects**	**5220**	**174**	
1.0 1	O'EYTB1104	The latest history of Uzbekistan	120	4	1
1.0 2	DINB1 2 04	Religious studies	120	4	2
1.0 3	FALB 1 50 4	Philosophy	120	4	5
1.0 4	XJTNB1108	Foreign language	240	8	2
1.0 5	O'TO'SQB1 2 04	Uzbek (Russian) language: Using the Uzbek language in the field	120	4	2
1. 06	JMSB1 1 0 4	Physical culture and sports	120	4	1
1.0 7	OMTB1104	Higher mathematics	120	4	1

1.0 8	ANFKBKB12 06	Analytical, physicocolloid and bioorganic chemistry	180	6	2
1.0 9	BO'FZB1208	Botany and plant physiology	240	8	1.2
1. 10	MTK B 1106	Introduction to the specialty	180	6	1
1.11	MXKGB 1104	Engineering and computer graphics	120	4	1
1.12	ITQXIFB 12 06	Heat engineering and heat use in agriculture	180	6	2
1.13	QXMSQIMB 1 3 08	Mechanization of storage and processing of agricultural products	240	8	3.4
1.14	ETRASB 1 308	Fundamentals of Electrical Engineering and Digitalization	240	8	3.4
1.15	SEASON 1 308	Fruit and vegetable growing	240	8	3.4
1.16	DHO'SHB 1 312	Farming and Plant Science	360	12	3.4
1.17	CHMSQITB 1 506	Technology of storage and processing of livestock products	180	6	5
1.18	QXMSSB 1 5 08	Standardization of agricultural products and certification	240	8	5.6
1.19	MSSQITB 1 510	Fruit and vegetable storage and processing technology	300	10	5.6
1.20	QXMSOB 1 5 0 8	Agricultural storage facilities	240	8	5.6
1.21	QXMSSBB 1 7 06	Sensory evaluation of the quality of agricultural products	180	6	7
1.22	TMEXASDITB 1 7 08	Technology of storage and primary processing of raw materials of technical and oilseed crops	240	8	7.8
1.23	DSQITB 1 7 08	Grain storage and processing technology	240	8	7.8
1.24	QXMQIKJLAB 1 7 08	Basics of equipment and design of agricultural processing plants	240	8	7.8
1.25	QXMQTTB 1 8 0 4	Agricultural product drying techniques and technology	120	4	8
1.26	QXICHTQTB 1 8 04	Organization of production in agriculture and entrepreneurship	120	4	8
1.27	QXMQB 1 8 06	Agricultural product packaging	180	6	8
2.00		**Elective subjects**	**1200**	**40**	
2.00		Elective subjects	1200	40	3,4,5,6
		Total	**6420**	**214**	
	MALAMAL 1222	Qualifying internships	660	22	2,4,6,7
		Graduation qualification work (BMI)	120	4	8
		Total	**780**	**26**	
		ALL	**7200**	**240**	

Bibliographic information

UOC: 664.8 Group T 55

OKS 01.040.01

Key words:

Storage, processing, packaging, drying, sensory evaluation of agricultural products , advanced technological processes , technical means, pressing, fruit, vegetable and grape products, improving the quality of stored and processed agricultural products, type of professional activity, competence, educational direction, object of professional activity, field of professional activity, basic curriculum and science program of the bachelor's degree, educational process, project-technological, pedagogical, scientific-pedagogical work, qualification practice, graduation qualification work, assessment, quality control, independent education, block of academic disciplines, content, higher education institution, educational process, production, design, scientific-research processes .