

2-1-2018

## Curriculum Subcommittee Agenda, February 1, 2018

Utah State University

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# CURRICULUM SUBCOMMITTEE AGENDA

1 February 2018

A meeting of the Curriculum Subcommittee of the Educational Policies Committee will be held on 1 February 2018 at 2:00 pm in Old Main 136 (Champ Hall Conference Room).

1. *Approval of 4 January 2018 Minutes*

2. *Program Proposal*

Request from the Department of Nutrition, Dietetics and Food Sciences in the College of Agriculture and Applied Sciences to offer a [Bachelor of Science in Nutrition Science](#).

Request from the Department of Nutrition, Dietetics and Food Sciences in the College of Agriculture and Applied Sciences to offer a [Bachelor of Science in Dietetics](#).

Request from the Department of Nutrition, Dietetics and Food Sciences in the College of Agriculture and Applied Sciences to offer a [Bachelor of Science in Food Science](#).

Request from the Jon M. Huntsman School of Business to establish a [Department of Marketing and Strategy](#).

Request from the Department of Computer Science in the College of Engineering to offer a [Master of Science in Data Science](#).

3. *Semester Course Approval Reviews*

<https://usu.curriculog.com/>

1. AG - PSC - 4810 

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2. AG - PSC - 6810 

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3. AG - PSC - 6870 

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4. BU - BUS - 1600

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5. BU - ECN - 3170 

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6. BU - MGT - 3890

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7. BU - MGT - 4531

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8. BU - MGT - 4533

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9. BU - MGT - 4890

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10. ED - ELED - 4005

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11. ED - ELED - 4040

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12. ED - ELED - 4050
13. ED - ELED - 4061
14. ED - ELED - 4062
15. ED - ELED - 5200
16. ED - HDFS - 2520
17. ED - HDFS - 7032
18. ED - HDFS - 7034
19. HS - POLS - 3170 ✂
20. HS - USU - 4910
21. HS - USU - 6910
22. NR - ENVS - 6870 ✂
23. NR - WATS - 6870 ✂
24. NR - WILD - 6870 ✂
25. SC - BIOL - 6870 ✂
26. UN - USU - 4000

*College of Agriculture and Applied Sciences*

ADVS =  
APEC =  
APPR =  
ASTE =  
LAEP =  
OPDD =  
NDFS =  
PSC = 3

*Caine College of the Arts*

ART =  
MUSC =  
THEA =  
CCA =

*Jon M. Huntsman School of Business*

ACCT =  
BUS = 1  
ECN = 1  
MGT = 4  
MIS =

***Emma Eccles Jones College of Education and Human Services***

COMD =

EDUC =

HDFS = 3

KHS =

ITLS =

NURS =

PSY =

SPER =

TEAL = 6

***College of Engineering***

BENG =

CEE =

CS =

ECE =

EED =

MAE =

***College of Humanities and Social Sciences***

ENGL =

HIST =

JCOM =

LPCS =

POLS = 1

SSWA =

IELI =

USU = 2

***S.J. & Jessie E. Quinney College of Natural Resources***

ENVS = 1

WATS = 1

WILD = 1

NR =

***College of Science***

BIOL = 1

CHEM =

GEOL =

MATH =

PHYS =

SCI =

UN = CAS-6310 (cross list course BIOL 6310 was approved – CAS 6310 is held up in committee review. BIOL will not be added until the cross-listed course is approved.)

UN = USU 4000

4. ***Other Business***

Removing Semesters Traditionally Taught from Catalog Descriptions – Barbara Williams

Zero Credit Classes | Handbook-Continuing Education Units and Workforce Development

R401 Process Flow Chart | Proposal Review Procedures

Syllabus Update – Ed Reeve

Curriculum Input

*Adjourn:*

## CURRICULUM SUBCOMMITTEE MINUTES

4 January 2018

A meeting of the Curriculum Subcommittee of the Educational Policies Committee was held on 4 January 2018 at 2:00 pm in Old Main 136 (Champ Hall Conference Room).

Present: Vijay Kannan, Chair, Jon M. Huntsman School of Business  
Brian Warnick, College of Agriculture and Applied Sciences  
Nicholas Morrison, Caine College of the Arts  
Dean Adams, College of Engineering  
Matt Sanders, College of Humanities and Social Sciences  
Claudia Radel, S.J. & Jessie E. Quinney College of Natural Resources  
Richard Mueller, College of Science  
Clint Pumphrey, Libraries  
Michelle Fleck, USU-Eastern  
Scott Henrie, USU-Eastern  
Amber Summers-Graham for Michele Hillard, Secretary  
Ed Reeve, Provost's Office, Chair, EPC  
Geneva Harline, Graduate Council  
Fran Hopkin, Registrar's Office  
Barbara Williams, Catalog Editor

Absent: TBD, Regional Campuses  
Scott Hunsaker, Emma Eccles Jones College of Education and Human Services  
Anuj Khasgiwala, Graduate Studies Senator  
Blake Harms, USUSA Executive Vice President  
Jessica Hansen, Academic and Instructional Services

Visitors: Bradford Hall, Department Head, Languages, Philosophy, and Communication Studies  
Dennis Dolny, Department Head, Kinesiology and Health Science  
Camille Litalien, Faculty, Kinesiology and Health Science  
Peter Wilcock, Department Head, Watershed Sciences  
Mykel Beorchia, University Advising

1. ***Approval of 7 December 2017 Minutes***

*Motion to approve the minutes from the 7 December meeting made by Dean Adams. Seconded by Richard Mueller. Minutes approved.*

2. ***Program Proposals***

Request from the Department of Kinesiology and Health Science in the Emma Eccles Jones College of Education and Human Services to offer a [Masters of Fine Arts in Movement Studies](#).

*(Financial and program clarifications being made)*

*Motion to approve the proposal made by Nick Morrison. Seconded by Richard Mueller.*

*Motion to postpone approval made by Brian Warnick. Seconded by Richard Mueller. Tabled pending resubmission.*

Request from the Department of Languages, Philosophy and Communication Studies in the College of Humanities and Social Sciences to offer a [Bachelor of Art in Portuguese](#).

*(Approval subject to edits. Need clarification in narrative about how students are achieving 120 credit hours in the major and the PORT 1010-2020 requirements.)*

*Motion to approve the proposal made by Matt Sanders. Seconded by Brian Warnick. Proposal approved pending requested edits.*

Request from the Department of Watershed Sciences in the S.J. & Jessie E. Quinney College of Natural Resources to offer a [Graduate Certificate in Aquatic Ecosystem Restoration](#).

*Motion to approve the proposal made by Claudia Radel. Seconded by Richard Mueller. Proposal approved.*

### **3. Semester Course Approval Reviews**

<https://usu.curriculog.com/>

#### ***College of Agriculture and Applied Sciences***

*Motion to approve the business of the College of Agriculture and Applied Sciences made by Brian Warnick. Seconded by Richard Mueller. Business approved.*

ADVS =

APEC =

APPR =

ASTE = 8

LAEP =

OPDD = 1

NDFS = 1

PSC = 1

#### ***Caine College of the Arts***

*Motion to approve the business of the Caine College of the Arts made by Nick Morrison. Seconded by Dean Adams. Business approved.*

ART =

MUSC =

THEA = 1

CCA =

#### ***Jon M. Huntsman School of Business***

*Motion to approve the business of the Jon M. Huntsman School of Business made by Nick Morrison. Seconded by Dean Adams. Business approved as noted below.*

ACCT =

BUS =

ECN = 2

MGT = 8 (FIN 5330 – Prerequisites in Curriculog and syllabus don't match. Curriculog is correct and syllabus will be updated)

MIS =

***Emma Eccles Jones College of Education and Human Services***

*Motion to approve the business of the Emma Eccles Jones College of Education and Human Services made by Dean Adams. Seconded by Richard Mueller. Business approved as noted below.*

COMD =

EDUC =

HDFS = 2 (HDFS 2520 – Tabled pending communication with department regarding reactivating the course since it hasn't been taught in years)

KHS = 9

ITLS = 2

NURS =

PSY =

SPER =

TEAL = 3 (ELED 4000 – A large list of prerequisites for the course. Barbara Williams will check for redundancy)

***College of Engineering***

*Motion to approve the business of the College of Engineering made by Dean Adams. Seconded by Brian Warnick. Business approved.*

BENG =

CEE =

CS = 1

ECE =

EED =

MAE =

***College of Humanities and Social Sciences***

*Motion to approve the business of the College of Humanities and Social Sciences made by Matt Sanders. Seconded by Richard Mueller. Business approved.*

ENGL =

HIST =

JCOM =

LPCS = 4

POLS = 5

SSWA = 3

IELI =

***S.J. & Jessie E. Quinney College of Natural Resources***

ENVS =

WATS =

WILD =

NR =



**College of Science**

*Motion to approve the business of the College of Science made by Richard Mueller. Seconded by Brian Warnick. Business approved.*

BIOL = 21

CHEM =

GEOL = 5

MATH =

PHYS =

SCI =

UN =

**4. Other Business**

Zero Credit Classes | Handbook-Continuing Education Units and Workforce Development  
*Held due to time constraints. Will be on the February agenda.*

R401 [Process Flow Chart](#) | [Proposal Review Procedures](#)

*Held due to time constraints. Will be on the February agenda.*

[Syllabus](#) Update

*Held due to time constraints. Will be on the February agenda.*

USU Advising [Registration Challenges with Prerequisites](#)

Mykel Beorchia and the USU Council of Lead Advisors have been working to identify possible solutions to the prerequisite challenges experienced by undergraduate students during registration. During registration week for the spring 2018 semester, **7,997 undergraduate students** in **1,157 courses** required a manual authorization to enter the course. University Advising and the Council of Lead Advisors have offered their services to work with USU Committees and Colleges to determine proactive approaches to course authorizations.

Curriculog Input

*Held due to time constraints. Will be on the February agenda.*

**Adjourn 3:07 pm**

**Utah System of Higher Education  
New Academic Program Proposal  
Cover/Signature Page - Full Template**

**Institution Submitting Request:** Utah State University

**Proposed Program Title:** Bachelor of Science - Nutrition Science

**Sponsoring School, College, or Division:** College of Agriculture and Applied Sciences

**Sponsoring Academic Department(s) or Unit(s):** Nutrition, Dietetics and Food Sciences

**Classification of Instructional Program Code<sup>1</sup> :** 19.0504

**Min/Max Credit Hours Required of Full Program:** 120 / 120

**Proposed Beginning Term<sup>2</sup>:** Fall 2018

**Institutional Board of Trustees' Approval Date:**

**Program Type (check all that apply):**

<input type="checkbox"/> (AAS)	Associate of Applied Science Degree
<input type="checkbox"/> (AA)	Associate of Arts Degree
<input type="checkbox"/> (AS)	Associate of Science Degree
<input type="checkbox"/>	Specialized Associate Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (BA)	Bachelor of Arts Degree
<input checked="" type="checkbox"/> (BS)	Bachelor of Science Degree
<input type="checkbox"/>	Specialized Bachelor Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (MA)	Master of Arts Degree
<input type="checkbox"/> (MS)	Master of Science Degree
<input type="checkbox"/>	Specialized Master Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Doctoral Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	K-12 School Personnel Program
<input type="checkbox"/>	Out of Service Area Delivery Program <input type="checkbox"/> Attached MOU
<input type="checkbox"/>	Out of Mission Program
<input type="checkbox"/>	NEW Professional School

<sup>1</sup> For CIP code classifications, please see <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>.

<sup>2</sup> "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

<sup>3</sup> Please indicate award such as APE, BFA, MBA, MEd, EdD, JD

**Chief Academic Officer (or Designee) Signature:**

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Please type your first and last name \_\_\_\_\_ Date:

I understand that checking this box constitutes my legal signature.

## Utah System of Higher Education Program Description - Full Template

### Section I: The Request

Utah State University requests approval to offer the following Baccalaureate degree(s): Bachelor of Science - Nutrition Science effective Fall 2018. This program was approved by the institutional Board of Trustees on .

### Section II: Program Proposal

#### Program Description

*Present a complete, formal program description.*

This request is to establish a Bachelor of Science (BS) Nutrition Science degree to replace the current Nutrition Science emphasis area within the BS Nutrition, Dietetics and Food Sciences. The curriculum for the proposed BS Nutrition Science degree will be exactly the same as for the current Nutrition Science emphasis area following four year degree plan found in the USU course catalog: [http://catalog.usu.edu/preview\\_program.php?catoid=12&poid=10327&returnto=3800](http://catalog.usu.edu/preview_program.php?catoid=12&poid=10327&returnto=3800). This proposal also includes adding emphasis areas under Nutrition Science in Pre-Health professions and in Sport Nutrition.

#### Consistency with Institutional Mission

*Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals (see mission and roles at [higheredutah.org/policies/policyr312](http://higheredutah.org/policies/policyr312)) or, for "out of mission" program requests, the rationale for the request.*

The proposed BS Nutrition Science will replace the current Nutrition Science emphasis of the BS in Nutrition, Dietetics and Food Sciences that is a long-established degree offering at Utah State University.

### Section III: Needs Assessment

#### Program Rationale

*Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.*

There are several reasons for the proposed change. The first reason for a separate BS Nutrition Science degree is that the current Nutrition Science emphasis within the BS Nutrition, Dietetics and Food Sciences is substantially independent and does not share a core curriculum with the other emphasis areas. The independence and separation of the current Nutrition Science emphasis area is evidenced in that it is not accredited/approved by the organizations that accredit/approve the other emphasis areas within the program including the Accreditation Council for Education in Nutrition and Dietetics and the Institute of Food Technologists. The second reason for the request for a separate degree is to allow better advising and tracking of students and graduates. The final reason for the request for a separate degree is to offer a degree that is more focused and recognizable to students and stakeholders across the state and region, and degree separation will enhance marketing the proposed degree to specific targeted groups of potential students.

#### Labor Market Demand

*Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer ([jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do](http://jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do)) and the Occupation Outlook Handbook ([www.bls.gov/oco](http://www.bls.gov/oco)).*

Job Outlook: According to the Bureau of Labor Statistics, Employment of dietitians and nutritionists is projected to grow 14 percent from 2016 to 2026, faster than the average for all occupations. The role of food in preventing and treating diseases, such as diabetes, is now well known. More dietitians and nutritionists will be needed to provide care for patients with various medical conditions and to advise people who want to improve their overall health (see: <https://www.bls.gov/ooh/Healthcare/>

[Dietitians-and-nutritionists.htm](#))

In the state of Utah, this occupation is expected to experience faster than average employment growth with a moderate volume of annual job openings. Business expansion, as opposed to the need for replacements, will provide the majority of job openings in the coming decade. Dietitians and nutritionists who have earned advanced degrees or certification in a specialty area may enjoy better job prospects (see: <https://jobs.utah.gov/jsp/utalmis/#/occupation/29-1031.00/report>)

### **Student Demand**

*Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.*

Student demand for this proposed BS Nutrition Science degree is expected to rise as changing from an emphasis area in the current degree to a standalone degree will increase the visibility of the individual program. Modest growth will be accommodated within the resources currently available in the department. The two emphasis areas, Pre-Health and Sports Nutrition, reflect the predominant interests of students and expertise of faculty members.

### **Similar Programs**

*Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?*

The proposed degree will replace the current emphasis and will not introduce additional overlap across programs in USHE.

### **Collaboration with and Impact on Other USHE Institutions**

*Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in [higheredutah.org/policies/policyr315/](http://higheredutah.org/policies/policyr315/). Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.*

The proposed degree will replace the current emphasis and will not offer additional collaboration or impact other USHE institutions.

### **External Review and Accreditation**

*Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.*

The proposed degree will not have any external review or accreditation similar to the current emphasis that it is replacing.

## Section IV: Program Details

### Graduation Standards and Number of Credits

*Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at [higheredutah.org/policies/R401](http://higheredutah.org/policies/R401).*

120 credits required. Other graduation standards remain the same as the current emphasis in Nutrition Science.

### Admission Requirements

*List admission requirements specific to the proposed program.*

The proposed degree will replace the current emphasis and requirements for admission will remain unchanged as found in the University Catalog: <http://www.usu.edu/degrees/index.cfm?id=128>

### Curriculum and Degree Map

*Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.*

## Section V: Institution, Faculty, and Staff Support

### Institutional Readiness

*How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?*

The proposed degree will replace the current emphasis and will not require any adjustments to administrative or organizational structure of the institution.

### Faculty

*Describe faculty development activities that will support this program. Will existing faculty/instructors, including teaching/graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.*

The proposed degree will replace the current emphasis and will be supported by existing faculty.

### Staff

*Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.*

The proposed degree will replace the current emphasis and will be supported by existing staff.

## **Student Advisement**

*Describe how students in the proposed program will be advised.*

The proposed degree will replace the current emphasis and will utilize the current advising provided through the Student Services of the College of Agriculture and Applied Sciences.

## **Library and Information Resources**

*Describe library resources required to offer the proposed program if any. List new library resources to be acquired.*

The proposed degree will replace the current emphasis and will utilize the current library and information resources of Utah State University.

## **Projected Enrollment and Finance**

*Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.*

## **Section VI: Program Evaluation**

### **Program Assessment**

*Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.*

The proposed degree will replace the current emphasis and will follow the assessment plan currently in place for the emphasis. That plan can be found at: <https://ndfs.usu.edu/assessment>

### **Student Standards of Performance**

*List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.*

The proposed degree is replacing the current emphasis and will require existing student standards of performance for the emphasis. The learning objectives and course map for the current emphasis can be accessed at: <https://ndfs.usu.edu/assessment>

## Appendix A: Program Curriculum

List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.

For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.

		Course Number	NEW Course	Course Title	Credit Hours
General Education Courses (list specific courses if recommended for this program on Degree Map)					
General Education Credit Hour Sub-Total					24
Required Courses					
<input type="radio"/>	<input type="radio"/>	CHEM 1210		Principles of Chemistry I	4
<input type="radio"/>	<input type="radio"/>	CHEM 1215		Chemical Principles Laboratory I	1
<input type="radio"/>	<input type="radio"/>	CHEM 1220		Principles of Chemistry II (BPS)	4
<input type="radio"/>	<input type="radio"/>	CHEM 1225		Chemical Principles Laboratory II	1
<input type="radio"/>	<input type="radio"/>	CHEM 2310		Organic Chemistry I	4
<input type="radio"/>	<input type="radio"/>	CHEM 2315		Organic Chemistry Laboratory I	1
<input type="radio"/>	<input type="radio"/>	CHEM 3700		Introductory Biochemistry	3
<input type="radio"/>	<input type="radio"/>	CHEM 3710		Introductory Biochemistry Laboratory	1
<input type="radio"/>	<input type="radio"/>	MATH 1050		College Algebra	4
<input type="radio"/>	<input type="radio"/>	MATH 1060		Trigonometry	2
<input type="radio"/>	<input type="radio"/>	MATH 1210		Calculus I (QL)	4
<input type="radio"/>	<input type="radio"/>	STAT 2000		Statistical Methods	4
<input type="radio"/>	<input type="radio"/>	BIOL 1610		Biology I	3
<input type="radio"/>	<input type="radio"/>	BIOL 1615		Biology I Laboratory	1
<input type="radio"/>	<input type="radio"/>	BIOL 1620		Biology II (BLS)	3
<input type="radio"/>	<input type="radio"/>	BIOL 1625		Biology II Laboratory	1
<input type="radio"/>	<input type="radio"/>	BIOL 2320		Human Anatomy	4
<input type="radio"/>	<input type="radio"/>	BIOL 2420		Human Physiology	4
<input type="radio"/>	<input type="radio"/>	NDFS 1020		Science and Application of Human Nutrition (BLS)	3
<input type="radio"/>	<input type="radio"/>	NDFS 3600		Medical Terminology for Health Care Professionals	2
<input type="radio"/>	<input type="radio"/>	NDFS 4020		Advanced Nutrition	3
<input type="radio"/>	<input type="radio"/>	NDFS 4080		Community Nutrition	3
<input type="radio"/>	<input type="radio"/>	NDFS 5210		Advanced Public Health Nutrition	3
<input type="radio"/>	<input type="radio"/>	NDFS 5230		Communication of Current Topics in Nutrition (CI)	3
<input type="radio"/>	<input type="radio"/>	NDFS 5400		Nutritional Neuroscience	3
<input type="radio"/>	<input type="radio"/>	NDFS 5410		Nutrient Gene Interactions	3
<input type="radio"/>	<input type="radio"/>	NDFS 3020		Nutrition and Human Performance	2
<input type="radio"/>	<input type="radio"/>	NDFS 5310		Fundamentals of Nutrition Research	3
Choose _____ of the following courses:					
<input type="radio"/>	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>				



	Course Number	NEW Course	Course Title	Credit Hours
<b>Required Course Credit Hour Sub-Total</b>				77
Elective Courses				
<input type="radio"/>	<input type="radio"/>	Elective Courses	Students who do not select an emphasis take electives or minor	19
Choose _____ of the following courses:				
<input type="radio"/>	<input type="radio"/>			
<input type="radio"/>	<input type="radio"/>			
<b>Elective Credit Hour Sub-Total</b>				19
<b>Core Curriculum Credit Hour Sub-Total</b>				120

Can students complete this degree without emphases?  Yes or  No

	Course Number	NEW Course	Course Title	Credit Hours
Name of Emphasis:			Pre-Health	
<input type="radio"/>	<input type="radio"/>	CHEM 2320	Organic Chemistry II	3
<input type="radio"/>	<input type="radio"/>	CHEM 2325	Organic Chemistry II Laboratory	1
<input type="radio"/>	<input type="radio"/>	BIOL 3060	Genetics (OI)	4
<input type="radio"/>	<input type="radio"/>	BIOL 3300	General Microbiology	4
<input type="radio"/>	<input type="radio"/>	PHYS 2110	General Physics - Life Sciences I	4
<input type="radio"/>	<input type="radio"/>	PHYS 2120	General Physics - Life Sciences II (BPS)	4
<b>Emphasis Credit Hour Sub-Total</b>				20
<b>Total Number of Credits to Complete Program</b>				140
Remove this emphasis				

	Course Number	NEW Course	Course Title	Credit Hours
Name of Emphasis:			Sports Nutrition	
<input type="radio"/>	<input type="radio"/>	NDFS 3020	Nutrition and Physical Performance	2
<input type="radio"/>	<input type="radio"/>	NDFS 5320	Advanced Sports Nutrition	3
<input type="radio"/>	<input type="radio"/>	NDFS 5300	Advanced Micronutrients	2
<input type="radio"/>	<input type="radio"/>	PEP 2000	Introduction and History of Physical Education	2
<input type="radio"/>	<input type="radio"/>	PEP 3250	Anatomical Kinesiology	3
<input type="radio"/>	<input type="radio"/>	PEP 4100	Exercise Physiology	4
<input type="radio"/>	<input type="radio"/>	PEP 5100	Fitness Assessment and Exercise Programs	4
<b>Emphasis Credit Hour Sub-Total</b>				20
<b>Total Number of Credits to Complete Program</b>				140

	Course Number	NEW Course	Course Title	Credit Hours
	Remove this emphasis			

**Program Curriculum Narrative**

*Describe any variable credits. You may also include additional curriculum information.*

Students can complete the degree without an emphasis area. Students who select one of the two emphasis areas would replace elective courses (or minor) with the additional emphasis area courses. The degree map below is for the nutrition science degree without an emphasis area.

## Degree Map

Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see <http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf> (Item #3).

Please cut-and-paste the degree map or manually enter the degree map in the table below.

<b>First Year Fall</b>	<b>Cr. Hr.</b>	<b>First Year Spring</b>	<b>Cr. Hr.</b>
CHEM 1210 Chem I	4	CHEM 1220 BPS Chem II (BPS)	4
CHEM 1215 Chem I Lab	1	CHEM 1225 Chem II Lab	1
MATH 1050 College Algebra (QL)	4	MATH 1060 Trigonometry	2
NDFS 1020 Human Nutr (BLS)	3	ENGL 1010 Intro Writing (CL1)	3
BHU Course	3	BAI Course	3
		STAT 2000 Statistical Methods (QI)	4
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>17</b>
<b>Second Year Fall</b>	<b>Cr. Hr.</b>	<b>Second Year Spring</b>	<b>Cr. Hr.</b>
BIOL 1610 Biology I	3	BIOL 1620 Biology II (BLS)	3
BIOL 1615 Biology I Laboratory	1	BIOL 1625 Biology II Laboratory	1
CHEM 2310 Organic Chem I	4	CHEM 3700 Intro Biochem	3
CHEM 2315 Organic Chem Lab I	1	CHEM 3710 Intro Biochem Lab	1
MATH 1210 Calculus I (QL)	4	BCA Course	3
BSS Course	3	ENGL 2010 Inter Writing (CL2)	3
<b>Total</b>	<b>16</b>	<b>Total</b>	<b>14</b>
<b>Third Year Fall</b>	<b>Cr. Hr.</b>	<b>Third Year Spring</b>	<b>Cr. Hr.</b>
NDFS 4020 Advanced Nutrition	3	BIOL 2320 Human Anatomy	4
NDFS 4080 Community Nutrition	3	NDFS 3600 Medical Terminology	2
DSS Course	3	DHA Course	3
BIOL 2420 Human Physiology	4	Elective or Emphasis area courses	6
Elective or Emphasis area course	3		
<b>Total</b>	<b>16</b>	<b>Total</b>	<b>15</b>
<b>Fourth Year Fall</b>	<b>Cr. Hr.</b>	<b>Fourth Year Spring</b>	<b>Cr. Hr.</b>
NDFS 5400 Nutritional Neuroscience	3	NDFS 5210 Adv Public Health Nutrition	3
NDFS 3020 Nutrition and Human Performance	2	NDFS 5230 Comm Curr Topics in Nutrition (CI)	3
NDFS 5310 Fundamentals of Nutrition Research	3	NDFS 5410 Nutrient Gene Interactions (CI)	3
Elective or Emphasis area courses	6	Elective or Emphasis area courses	4
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>13</b>

### Appendix C: Current and New Faculty / Staff Information

#### Part I. Department Faculty / Staff

Identify # of department faculty / staff (headcount) for the year preceding implementation of proposed program.

	# Tenured	# Tenure -Track	# Non -Tenure Track
Faculty: Full Time with Doctorate	13	4	1
Faculty: Part Time with Doctorate			
Faculty: Full Time with Masters			15
Faculty: Part Time with Masters			
Faculty: Full Time with Baccalaureate			
Faculty: Part Time with Baccalaureate			
Teaching / Graduate Assistants			
Staff: Full Time			17
Staff: Part Time			10

#### Part II. Proposed Program Faculty Profiles

List current faculty within the institution -- with academic qualifications -- to be used in support of the proposed program(s).

	First Name	Last Name	Tenure (T) / Tenure Track (TT) / Other	Degree	Institution where Credential was Earned	Est. % of time faculty member will dedicate to proposed program.	If "Other," describe
<b>Full Time Faculty</b>							
	Carrie	Durward	TT	PhD	Pennsylvania State Univeristy	15	
	Korry	Hintze	T	PhD	North Dakota State University	45	
	Michael	Lefevere	T	PhD	University of California - Davis	30	
	Ron	Munger	T	PhD	University of Washington - Seattle	40	
	Heidi	Wengreen	T	PhD	Utah State Univeristy	60	
	Mateja	Roskos	TT	PhD	Utah State University	50	
	Marlene	Graf	Other	MS	Utah State University	50	
	Natalie	Norris	Other	MS	University Utah	50	
	Clara	Cho	TT	PhD	University of Toronto	40	
<b>Part Time Faculty</b>							

#### Part III: New Faculty / Staff Projections for Proposed Program

Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Full Time with Doctorate				No new faculty or staff required.	
Faculty: Part Time with Doctorate					

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Full Time with Masters					
Faculty: Part Time with Masters					
Faculty: Full Time with Baccalaureate					
Faculty: Part Time with Baccalaureate					
Teaching / Graduate Assistants	////	////			
Staff: Full Time					
Staff: Part Time					

## Appendix D: Projected Program Participation and Finance

### Part I.

*Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.*

Three Year Projection: Program Participation and Department Budget						
	Year Preceding Implementation	New Program				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Student Data</b>						
# of Majors in Department	253	260	270	285	295	300
# of Majors in Proposed Program(s)		60	65	70	75	75
# of Graduates from Department	51	53	55	58	60	63
# Graduates in New Program(s)		12	13	14	16	19
<b>Department Financial Data</b>						
	Department Budget					
	Year Preceding Implementation (Base Budget)	Year 1	Year 2	Year 3		
		Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)		
<i>Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."</i>						
<b>EXPENSES – nature of additional costs required for proposed program(s)</b>						
<i>List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.</i>						
Personnel (Faculty & Staff Salary & Benefits)	\$3,177,123	\$0	\$0	\$0		
Operating Expenses (equipment, travel, resources)	\$161,147	\$0	\$0	\$0		
Other:						
<b>TOTAL PROGRAM EXPENSES</b>		\$0	\$0	\$0		
<b>TOTAL EXPENSES</b>	\$3,338,270	\$3,338,270	\$3,338,270	\$3,338,270		
<b>FUNDING – source of funding to cover additional costs generated by proposed program(s)</b>						
<i>Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.</i>						
Internal Reallocation	\$3,338,270					
Appropriation						
Special Legislative Appropriation						
Grants and Contracts						
Special Fees						
Tuition						
Differential Tuition (requires Regents approval)						
<b>PROPOSED PROGRAM FUNDING</b>		\$0	\$0	\$0		
<b>TOTAL DEPARTMENT FUNDING</b>	\$3,338,270	\$3,338,270	\$3,338,270	\$3,338,270		
<b>Difference</b>						
Funding - Expense	\$0	\$0	\$0	\$0		

**Part II: Expense explanation**

**Expense Narrative**

*Describe expenses associated with the proposed program.*

The proposed degree replaces a current emphasis and will not require additional funding.

**Part III: Describe funding sources**

**Revenue Narrative 1**

*Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.*

The proposed degree replaces a current emphasis and will not require additional funding.

**Revenue Narrative 2**

*Describe new funding sources and plans to acquire the funds.*

The proposed degree replaces a current emphasis and will not require additional funding.

**Utah System of Higher Education  
New Academic Program Proposal  
Cover/Signature Page - Full Template**

**Institution Submitting Request:** Utah State University  
**Proposed Program Title:** Bachelor of Science in Dietetics  
**Sponsoring School, College, or Division:** College of Agriculture and Applied Sciences  
**Sponsoring Academic Department(s) or Unit(s):** Nutrition, Dietetics and Food Sciences  
**Classification of Instructional Program Code<sup>1</sup> :** 51.3101  
**Min/Max Credit Hours Required of Full Program:** 120 / 132  
**Proposed Beginning Term<sup>2</sup>:** Fall 2018  
**Institutional Board of Trustees' Approval Date:**

**Program Type (check all that apply):**

<input type="checkbox"/> (AAS)	Associate of Applied Science Degree
<input type="checkbox"/> (AA)	Associate of Arts Degree
<input type="checkbox"/> (AS)	Associate of Science Degree
<input type="checkbox"/>	Specialized Associate Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (BA)	Bachelor of Arts Degree
<input checked="" type="checkbox"/> (BS)	Bachelor of Science Degree
<input type="checkbox"/>	Specialized Bachelor Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (MA)	Master of Arts Degree
<input type="checkbox"/> (MS)	Master of Science Degree
<input type="checkbox"/>	Specialized Master Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Doctoral Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	K-12 School Personnel Program
<input type="checkbox"/>	Out of Service Area Delivery Program <input type="checkbox"/> Attached MOU
<input type="checkbox"/>	Out of Mission Program
<input type="checkbox"/>	NEW Professional School

<sup>1</sup> For CIP code classifications, please see <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>.

<sup>2</sup> "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

<sup>3</sup> Please indicate award such as APE, BFA, MBA, MEd, EdD, JD



**Chief Academic Officer (or Designee) Signature:**

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Please type your first and last name \_\_\_\_\_ Date:

I understand that checking this box constitutes my legal signature.

# Utah System of Higher Education Program Description - Full Template

## Section I: The Request

Utah State University requests approval to offer the following Baccalaureate degree(s): Bachelor of Science in Dietetics effective Fall 2018. This program was approved by the institutional Board of Trustees on .

## Section II: Program Proposal

### Program Description

*Present a complete, formal program description.*

This request is to establish a Bachelor of Science (BS) Dietetics degree to replace the current dietetics emphasis areas within the BS Nutrition, Dietetics and Food Sciences. The proposed BS Dietetics will have two emphasis, Coordinated Program or Didactic Program, corresponding to the current emphasis areas. The curricula for the 1) Coordinated Program or the 2) Didactic Program in proposed BS Dietetics degree will be exactly the same as for the current emphasis areas following four year degree plans found in the USU course catalog, respectively: 1) [http://catalog.usu.edu/preview\\_program.php?catoid=12&poid=10326&returnto=3800](http://catalog.usu.edu/preview_program.php?catoid=12&poid=10326&returnto=3800) or 2) [http://catalog.usu.edu/preview\\_program.php?catoid=12&poid=10325&returnto=3800](http://catalog.usu.edu/preview_program.php?catoid=12&poid=10325&returnto=3800)

### Consistency with Institutional Mission

*Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals (see mission and roles at [higheredutah.org/policies/policyr312](http://higheredutah.org/policies/policyr312)) or, for "out of mission" program requests, the rationale for the request.*

The proposed BS Dietetics will replace the current emphasis areas of the BS in Nutrition, Dietetics and Food Sciences that is a long-established degree offering at Utah State University.

## Section III: Needs Assessment

### Program Rationale

*Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.*

There are several reasons for the proposed change. The first reason for a separate BS Dietetics degree is that the current dietetics emphasis areas within the BS Nutrition, Dietetics and Food Sciences are substantially independent and do not share a core curriculum with the other emphasis areas. The independence and separation of the current dietetics emphasis area is evidenced in that each is separately accredited by the Accreditation Council for Education in Nutrition and Dietetics. The second reason for the request for a separate degree is to allow better advising and tracking of students and graduates. The final reason for the request for a separate degree is to offer a degree that is more focused and recognizable to students and stakeholders across the state and region, and degree separation will enhance marketing the proposed degree to specific targeted groups of potential students.

### Labor Market Demand

*Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer ([jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do](http://jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do)) and the Occupation Outlook Handbook ([www.bls.gov/oco](http://www.bls.gov/oco)).*

Job Outlook: According to the Bureau of Labor Statistics, Employment of dietitians and nutritionists is projected to grow 14 percent from 2016 to 2026, faster than the average for all occupations. The role of food in preventing and treating diseases,

such as diabetes, is now well known. More dietitians and nutritionists will be needed to provide care for patients with various medical conditions and to advise people who want to improve their overall health (see: <https://www.bls.gov/ooh/Healthcare/Dietitians-and-nutritionists.htm>)

In the state of Utah, this occupation is expected to experience faster than average employment growth with a moderate volume of annual job openings. Business expansion, as opposed to the need for replacements, will provide the majority of job openings in the coming decade. Dietitians and nutritionists who have earned advanced degrees or certification in a specialty area may enjoy better job prospects (see: <https://jobs.utah.gov/jsp/utalmis/#/occupation/29-1031.00/report>)

### **Student Demand**

*Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.*

Acceptance of students into the current emphasis areas in dietetics are at full capacity, and student demand for the new BS Dietetics is expected to remain at capacity with 12 graduates/year in the CPD emphasis and 22 graduates/yr in the DPD emphasis.

### **Similar Programs**

*Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?*

The proposed degree will replace the current emphasis areas and will not introduce additional overlap across programs in USHE.

### **Collaboration with and Impact on Other USHE Institutions**

*Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in [higheredutah.org/policies/policyr315/](http://higheredutah.org/policies/policyr315/). Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.*

The proposed degree will replace the current emphasis areas and will not offer additional collaboration or impact other USHE institutions.

### **External Review and Accreditation**

*Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.*

The Coordinated Program and the Didactic Program will remain separately accredited similar to the current emphasis areas that they are replacing.

## Section IV: Program Details

### Graduation Standards and Number of Credits

*Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at [higheredutah.org/policies/R401](http://higheredutah.org/policies/R401).*

120 credits required as a minimum. The didactic program emphasis area which requires the students to complete the internship as a post-baccalaureate experience, is at 120 credit hours. The coordinated program emphasis area integrates the internship and adds an additional 12 credits to the BS degree, requiring 132 total credits.

### Admission Requirements

*List admission requirements specific to the proposed program.*

The proposed degree will replace the current emphasis and requirements for admission will remain unchanged as found in the University Catalog: <http://www.usu.edu/degrees/index.cfm?id=128>

### Curriculum and Degree Map

*Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.*

## Section V: Institution, Faculty, and Staff Support

### Institutional Readiness

*How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?*

The proposed degree will replace the current emphasis and will not require any adjustments to administrative or organizational structure of the institution.

### Faculty

*Describe faculty development activities that will support this program. Will existing faculty/instructors, including teaching/graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.*

The proposed degree will replace the current emphasis and will be supported by existing faculty.

### Staff

*Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.*

The proposed degree will replace the current emphasis and will be supported by existing staff.

## **Student Advisement**

*Describe how students in the proposed program will be advised.*

The proposed degree will replace the current emphasis and will utilize the current advising provided through the Student Services of the College of Agriculture and Applied Sciences.

## **Library and Information Resources**

*Describe library resources required to offer the proposed program if any. List new library resources to be acquired.*

The proposed degree will replace the current emphasis and will utilize the current library and information resources of Utah State University.

## **Projected Enrollment and Finance**

*Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.*

## **Section VI: Program Evaluation**

### **Program Assessment**

*Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.*

The proposed degree will replace the current emphasis and will follow the assessment plan currently in place for the emphasis. That plan can be found at: <https://ndfs.usu.edu/assessment>

### **Student Standards of Performance**

*List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.*

The proposed degree is replacing the current emphasis and will require existing student standards of performance for the emphasis. The learning objectives and course map for the current emphasis can be accessed at: <https://ndfs.usu.edu/assessment>

## Appendix A: Program Curriculum

List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.

For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.

		Course Number	NEW Course	Course Title	Credit Hours
General Education Courses (list specific courses if recommended for this program on Degree Map)					
General Education Credit Hour Sub-Total					18
Required Courses					
+	-	CHEM 1210		Principles of Chemistry I	4
+	-	CHEM 1220		Principles of Chemistry II (BPS)	4
+	-	CHEM 2300		Principles of Organic Chemistry	3
+	-	CHEM 3700		Introductory Biochemistry	3
+	-	MATH 1050		College Algebra (QL)	4
+	-	STAT 1040		Introduction to Statistics (QL)	3
+	-	BIOL 2420		Human Physiology	4
+	-	PSY 1010		General Psychology (BSS)	3
+	-	FCHD 3350		Personal Family Finance (DSS)	3
+	-	NDFS 1020		Science and Application of Human Nutrition (BLS)	3
+	-	NDFS 1030		Introduction to Dietetics	1
+	-	NDFS 1250		Sanitation and Safety	3
+	-	NDFS 1260		Food Literacy	3
+	-	NDFS 2020		Nutrition Through the Life Cycle	3
+	-	NDFS 3020		Nutrition and Physical Performance	2
+	-	NDFS 3070		Science of Food Preparation	4
+	-	NDFS 3600		Medical Terminology for Health Care Professionals	2
+	-	NDFS 4020		Advanced Nutrition	3
+	-	NDFS 4050		Education and Counseling Methods in Dietetics I (CI)	2
+	-	NDFS 4060		Education and Counseling Methods in Dietetics II (CI)	2
+	-	NDFS 4480		Community Nutrition	3
+	-	NDFS 4550		Nutrition Assessment	3
+	-	NDFS 4560		Medical Nutrition Therapy II (CI)	4
+	-	NDFS 4710		Food Service Systems	2
+	-	NDFS 4720		Food Service Organization and Management (QI)	2
+	-	NDFS 4750		Transition to Professional Practice	2
+	-	NDFS 4780		Maternal and Child Nutrition (CI)	2
+	-	NDFS 5210		Advanced Public Health Nutrition	3
+	-	NDFS 5410		Nutrient Gene Interactions	3
+	-	NDFS 4760		Transition to Professional Practice Lab	2
+	-	NDFS 5750		Advanced Dietetics Practicum	3

	Course Number	NEW Course	Course Title	Credit Hours
Choose _____ of the following courses:				
<input type="radio"/>	<input type="radio"/>			
<input type="radio"/>	<input type="radio"/>			
<b>Required Course Credit Hour Sub-Total</b>				<b>88</b>
<b>Elective Courses</b>				
<input type="radio"/>	<input type="radio"/>			0
Choose _____ of the following courses:				
<input type="radio"/>	<input type="radio"/>			
<input type="radio"/>	<input type="radio"/>			
<b>Elective Credit Hour Sub-Total</b>				<b>0</b>
<b>Core Curriculum Credit Hour Sub-Total</b>				<b>106</b>

*Can students complete this degree without emphases? Yes or  No*

	Course Number	NEW Course	Course Title	Credit Hours
Name of Emphasis:			Didactic Program	
<input type="radio"/>	<input type="radio"/>	NDFS 4590	Nutrition Assessment Lab I	1
<input type="radio"/>	<input type="radio"/>	NDFS 4760	Transition to Professional Practice Lab	2
<input type="radio"/>	<input type="radio"/>	NDFS 5200	Nutritional Epidemiology	3
<input type="radio"/>	<input type="radio"/>	NDFS 5230	Communication of Current Topics in Nutrition (CI)	3
<input type="radio"/>	<input type="radio"/>	NDFS 5750	Advanced Dietetics Practicum	2
<input type="radio"/>	<input type="radio"/>	ASTE 2900	Food Matters (BSS)	3
<b>Emphasis Credit Hour Sub-Total</b>				<b>14</b>
<b>Total Number of Credits to Complete Program</b>				<b>120</b>
Remove this emphasis				

	Course Number	NEW Course	Course Title	Credit Hours
Name of Emphasis:			Coordinated Program	
<input type="radio"/>	<input type="radio"/>	NDFS 4490	Community Nutrition Experience I	2
<input type="radio"/>	<input type="radio"/>	NDFS 4500	Community Nutrition Experience II	2
<input type="radio"/>	<input type="radio"/>	NDFS 4570	Clinical Nutrition Experience I	1
<input type="radio"/>	<input type="radio"/>	NDFS 4580	Clinical Nutrition Experience II	2
<input type="radio"/>	<input type="radio"/>	NDFS 4660	Medical Dietetics (CI)	12
<input type="radio"/>	<input type="radio"/>	NDFS 4730	Food Systems Service Lab	2

	Course Number	NEW Course	Course Title	Credit Hours
+ -	NDFS 4740		Food Service Organization and Management Lab	2
+ -	NDFS 4760		Transition to Professional Practice Lab	2
+ -	NDFS 4790		Maternal and Child Nutrition Lab	1
<b>Emphasis Credit Hour Sub-Total</b>				26
<b>Total Number of Credits to Complete Program</b>				132
	Remove this emphasis			

### Program Curriculum Narrative

*Describe any variable credits. You may also include additional curriculum information.*

The higher than typical credits to complete program for the coordinated program is because it includes the 12 credit hour internship in the undergraduate program. In other dietetics programs, including the didactic emphasis, the 12 credit hour internship occurs after the baccalaureate degree.



## Degree Map

Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see <http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf> (Item #3).

Please cut-and-paste the degree map or manually enter the degree map in the table below.

<b>First Year Fall</b>	<b>Cr. Hr.</b>	<b>First Year Spring</b>	<b>Cr. Hr.</b>
CHEM 1210 Prin Chem	4	CHEM 1220 Prin Chem II	4
NDFS 1020 Science & Appl Human Nutrition	3	NDFS 2020 Nutrition through Lifecycle	3
NDFS 1030 Intr to Dietetics	1	ENGL 1010 Intro Writing (CL1)	3
NDFS 1260 Food Literacy	3	STAT 1040 Intro to Stats (QL)	3
MATH 1050 College Algebra (QL)	4	BHU Course	3
PSY 1010 General Psychology (BSS)	3		
<b>Total</b>	<b>18</b>	<b>Total</b>	<b>16</b>
<b>Second Year Fall</b>	<b>Cr. Hr.</b>	<b>Second Year Spring</b>	<b>Cr. Hr.</b>
CHEM 2300 Organic Chem	3	CHEM 3700 Introductory Biochemistry	3
NDFS 3020 Nutrition & Physical Performance	2	NDFS 3070 Science of Food Preparation	4
BIOL 2420 Human Physiology	4	NDFS 1250 Sanitation and Safety	3
ENGL 2010 Inter Writing (CL2)	3	NDFS 3600 Medical Terminology	2
FCHD 3350 Family Finance (DSS)	3	BCA Course	3
BAI Course	3		
<b>Total</b>	<b>18</b>	<b>Total</b>	<b>15</b>
<b>Third Year Fall</b>	<b>Cr. Hr.</b>	<b>Third Year Spring</b>	<b>Cr. Hr.</b>
NDFS 4020 Adv Nutrition	3	NDFS 4060 Educ & Counseling in Dietetics II	2
NDFS 4050 Educ & Counseling in Dietetics I	2	NDFS 4560 Medical Nutrition Therapy II (CI)	4
NDFS 4480 Community Nutrition	3	NDFS 4720 Food Serv Org & Mgmt (OI)	2
NDFS 4550 Nutrition Assessment	3	NDFS 4780 Maternal and Child Nutr (CI)	2
NDFS 4710 Food Service Systems	2	Emphasis Course	3
		DHA Course	3
<b>Total</b>	<b>13</b>	<b>Total</b>	<b>16</b>
<b>Fourth Year Fall</b>	<b>Cr. Hr.</b>	<b>Fourth Year Spring</b>	<b>Cr. Hr.</b>
NDFS 5750 Advanced Dietetics Practicum	3	NDFS 4750 Trans to Professional Practice	2
Emphasis Courses (coordinated prog internship)	9	NDFS 5210 Adv Public Health Nutrition	3
		NDFS 5410 Nutrient Gene Interactions	3
		NDFS 4760 Trans to Prof Practice Lab	2
		Emphasis Course	2
<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>

### Appendix C: Current and New Faculty / Staff Information

#### Part I. Department Faculty / Staff

Identify # of department faculty / staff (headcount) for the year preceding implementation of proposed program.

	# Tenured	# Tenure -Track	# Non -Tenure Track
Faculty: Full Time with Doctorate	13	4	1
Faculty: Part Time with Doctorate			
Faculty: Full Time with Masters			15
Faculty: Part Time with Masters			
Faculty: Full Time with Baccalaureate			
Faculty: Part Time with Baccalaureate			
Teaching / Graduate Assistants	////	////	
Staff: Full Time			17
Staff: Part Time			10

#### Part II. Proposed Program Faculty Profiles

List current faculty within the institution -- with academic qualifications -- to be used in support of the proposed program(s).

	First Name	Last Name	Tenure (T) / Tenure Track (TT) / Other	Degree	Institution where Credential was Earned	Est. % of time faculty member will dedicate to proposed program.	If "Other," describe
Full Time Faculty							
	Sheryl	Aguilar	Other	MS	Utah State University	100	
	Janet	Anderson	Other	MS	Utah State University	40	
	Martha	Archulta	T	PhD	University of Illinois	5	
	Stacy	Bevan	Other	MS	Utah State University	100	
	Rebecca	Charlton	Other	MPH	University of California - Los Angeles	100	
	Marlene	Graf	Other	MS	Utah State University	50	
	Tamara	Steinitz	Other	MS	Utah State University	100	
	Mateja	Roskos	PhD	TT	Utah State University	50	
Part Time Faculty							

#### Part III: New Faculty / Staff Projections for Proposed Program

Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Full Time with Doctorate				No new faculty or staff required	
Faculty: Part Time with Doctorate					
Faculty: Full Time with Masters					

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Part Time with Masters					
Faculty: Full Time with Baccalaureate					
Faculty: Part Time with Baccalaureate					
Teaching / Graduate Assistants					
Staff: Full Time					
Staff: Part Time					

## Appendix D: Projected Program Participation and Finance

### Part I.

*Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.*

Three Year Projection: Program Participation and Department Budget						
	Year Preceding Implementation	New Program				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Student Data</b>						
# of Majors in Department	253	260	270	285	295	300
# of Majors in Proposed Program(s)		165	165	170	170	170
# of Graduates from Department	51	53	55	58	60	63
# Graduates in New Program(s)		34	34	34	34	34
<b>Department Financial Data</b>						
	Department Budget					
	Year Preceding Implementation (Base Budget)	Year 1	Year 2	Year 3		
		Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)		
<i>Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."</i>						
<b>EXPENSES – nature of additional costs required for proposed program(s)</b>						
<i>List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.</i>						
Personnel (Faculty & Staff Salary & Benefits)	\$3,177,123	\$0	\$0	\$0		
Operating Expenses (equipment, travel, resources)	\$161,147					
Other:						
<b>TOTAL PROGRAM EXPENSES</b>		\$0	\$0	\$0		
<b>TOTAL EXPENSES</b>	\$3,338,270	\$3,338,270	\$3,338,270	\$3,338,270		
<b>FUNDING – source of funding to cover additional costs generated by proposed program(s)</b>						
<i>Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.</i>						
Internal Reallocation	\$3,338,270					
Appropriation						
Special Legislative Appropriation						
Grants and Contracts						
Special Fees						
Tuition						
Differential Tuition (requires Regents approval)						
<b>PROPOSED PROGRAM FUNDING</b>		\$0	\$0	\$0		
<b>TOTAL DEPARTMENT FUNDING</b>	\$3,338,270	\$3,338,270	\$3,338,270	\$3,338,270		
<b>Difference</b>						
Funding - Expense	\$0	\$0	\$0	\$0		

**Part II: Expense explanation**

**Expense Narrative**

*Describe expenses associated with the proposed program.*

The proposed degree replaces current emphases and will not require additional funding.

**Part III: Describe funding sources**

**Revenue Narrative 1**

*Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.*

The proposed degree replaces current emphases and will not require additional funding.

**Revenue Narrative 2**

*Describe new funding sources and plans to acquire the funds.*

The proposed degree replaces current emphases and will not require additional funding.

**Utah System of Higher Education  
New Academic Program Proposal  
Cover/Signature Page - Full Template**

**Institution Submitting Request:** Utah State University  
**Proposed Program Title:** Bachelor of Science in Food Science  
**Sponsoring School, College, or Division:** College of Agriculture and Applied Sciences  
**Sponsoring Academic Department(s) or Unit(s):** Nutrition, Dietetics and Food Sciences  
**Classification of Instructional Program Code<sup>1</sup> :** 01.1001  
**Min/Max Credit Hours Required of Full Program:** 120 / 120  
**Proposed Beginning Term<sup>2</sup>:** Fall 2018  
**Institutional Board of Trustees' Approval Date:**

**Program Type (check all that apply):**

<input type="checkbox"/> (AAS)	Associate of Applied Science Degree
<input type="checkbox"/> (AA)	Associate of Arts Degree
<input type="checkbox"/> (AS)	Associate of Science Degree
<input type="checkbox"/>	Specialized Associate Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (BA)	Bachelor of Arts Degree
<input checked="" type="checkbox"/> (BS)	Bachelor of Science Degree
<input type="checkbox"/>	Specialized Bachelor Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (MA)	Master of Arts Degree
<input type="checkbox"/> (MS)	Master of Science Degree
<input type="checkbox"/>	Specialized Master Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Doctoral Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	K-12 School Personnel Program
<input type="checkbox"/>	Out of Service Area Delivery Program <input type="checkbox"/> Attached MOU
<input type="checkbox"/>	Out of Mission Program
<input type="checkbox"/>	NEW Professional School

<sup>1</sup> For CIP code classifications, please see <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>.

<sup>2</sup> "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

<sup>3</sup> Please indicate award such as APE, BFA, MBA, MEd, EdD, JD

**Chief Academic Officer (or Designee) Signature:**

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Please type your first and last name \_\_\_\_\_ Date:

I understand that checking this box constitutes my legal signature.

## Utah System of Higher Education Program Description - Full Template

### Section I: The Request

Utah State University requests approval to offer the following Baccalaureate degree(s): Bachelor of Science in Food Science effective Fall 2018. This program was approved by the institutional Board of Trustees on .

### Section II: Program Proposal

#### Program Description

*Present a complete, formal program description.*

This request is to establish a Bachelor of Science (BS) Food Science degree to replace the current Food Science emphasis area within the BS Nutrition, Dietetics and Food Sciences. The curriculum for the proposed BS Food Science degree will be exactly the same as for the current Food Science emphasis area following four year degree plan found in the USU course catalog: [http://catalog.usu.edu/preview\\_program.php?catoid=12&poid=9618&returnto=3800](http://catalog.usu.edu/preview_program.php?catoid=12&poid=9618&returnto=3800)

#### Consistency with Institutional Mission

*Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals (see mission and roles at [higheredutah.org/policies/policyr312](http://higheredutah.org/policies/policyr312)) or, for "out of mission" program requests, the rationale for the request.*

The proposed BS Food Science will replace the current Food Science emphasis of the BS in Nutrition, Dietetics and Food Sciences that is a long-established degree offering at Utah State University.

### Section III: Needs Assessment

#### Program Rationale

*Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.*

There are several reasons for the proposed change. The first reason for a separate BS Food Science degree is that the current Food Science emphasis within the BS Nutrition, Dietetics and Food Sciences is substantially independent and does not share a core curriculum with the other emphasis areas. The independence and separation of the current Food Science emphasis area is evidenced in that it is separately approved by the Institute of Food Technologists. The second reason for the request for a separate degree is to allow better advising and tracking of students and graduates. The final reason for the request for a separate degree is to offer a degree that is more focused and recognizable to students and stakeholders across the state and region, and degree separation will enhance marketing the proposed degree to specific targeted groups of potential students.

#### Labor Market Demand

*Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer ([jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do](http://jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do)) and the Occupation Outlook Handbook ([www.bls.gov/oco](http://www.bls.gov/oco)).*

Job Outlook: According to the Bureau of Labor Statistics, Employment of agriculture and food scientists is projected to grow 7 percent from 2016 to 2026, as fast as the average for all occupations. Employment of agricultural and food scientists is projected to grow as research into agricultural production methods and techniques continues and median pay is almost \$70,000 per year. (see: <https://www.bls.gov/ooh/life-physical-and-social-science/agricultural-and-food-scientists.htm>)

In the state of Utah, this occupation is expected to experience about average employment growth. The need for replacements, rather than business expansion, is projected to make up the majority of job openings in the coming decade. (see: <https://>



### **Student Demand**

*Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.*

Student demand for this proposed BS Food Science degree is expected to rise as changing from an emphasis area in the current degree to a standalone degree will increase the visibility of the individual program. Modest growth will be accommodated within the resources currently available in the department.

### **Similar Programs**

*Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?*

The proposed degree will replace the current emphasis and will not introduce additional overlap across programs in USHE.

### **Collaboration with and Impact on Other USHE Institutions**

*Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in [higheredutah.org/policies/policy315/](https://higheredutah.org/policies/policy315/). Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.*

The proposed degree will replace the current emphasis and will not offer additional collaboration or impact other USHE institutions.

### **External Review and Accreditation**

*Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.*

The proposed degree will continue to be approved by the Institute of Food Technologists as is the current emphasis that it is replacing.

## **Section IV: Program Details**

### **Graduation Standards and Number of Credits**

*Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at [higheredutah.org/policies/R401](https://higheredutah.org/policies/R401).*

120 credits required

## Admission Requirements

*List admission requirements specific to the proposed program.*

The proposed degree will replace the current emphasis and requirements for admission will remain unchanged as found in the University Catalog: <http://www.usu.edu/degrees/index.cfm?id=128>

## Curriculum and Degree Map

*Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.*

## Section V: Institution, Faculty, and Staff Support

### Institutional Readiness

*How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?*

The proposed degree will replace the current emphasis and will not require any adjustments to administrative or organizational structure of the institution.

### Faculty

*Describe faculty development activities that will support this program. Will existing faculty/instructors, including teaching/graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.*

The proposed degree will replace the current emphasis and will be supported by existing faculty.

### Staff

*Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.*

The proposed degree will replace the current emphasis and will be supported by existing staff.

### Student Advisement

*Describe how students in the proposed program will be advised.*

The proposed degree will replace the current emphasis and will utilize the current advising provided through the Student Services of the College of Agriculture and Applied Sciences.

### Library and Information Resources

*Describe library resources required to offer the proposed program if any. List new library resources to be acquired.*

The proposed degree will replace the current emphasis and will utilize the current library and information resources of Utah State University.

## **Projected Enrollment and Finance**

*Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.*

## **Section VI: Program Evaluation**

### **Program Assessment**

*Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.*

The proposed degree will replace the current emphasis and will follow the assessment plan currently in place for the emphasis.

That plan can be found at: <https://ndfs.usu.edu/assessment>

### **Student Standards of Performance**

*List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.*

The proposed degree is replacing the current emphasis and will require existing student standards of performance for the emphasis. The learning objectives and course map for the current emphasis can be accessed at: <https://ndfs.usu.edu/assessment>

## Appendix A: Program Curriculum

List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.

For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.

		Course Number	NEW Course	Course Title	Credit Hours
General Education Courses (list specific courses if recommended for this program on Degree Map)					
General Education Credit Hour Sub-Total					21
Required Courses					
<input type="radio"/>	<input type="radio"/>	CHEM 1210		Principles of Chemistry I	4
<input type="radio"/>	<input type="radio"/>	CHEM 1215		Chemical Principles Laboratory I	1
<input type="radio"/>	<input type="radio"/>	CHEM 1220		Principles of Chemistry II (BPS)	4
<input type="radio"/>	<input type="radio"/>	CHEM 1225		Chemical Principles Laboratory II	1
<input type="radio"/>	<input type="radio"/>	CHEM 2300		Principles of Organic Chemistry	3
<input type="radio"/>	<input type="radio"/>	CHEM 2315		Organic Chemistry Laboratory I	1
<input type="radio"/>	<input type="radio"/>	CHEM 3700		Introductory Biochemistry	3
<input type="radio"/>	<input type="radio"/>	CHEM 3710		Introductory Biochemistry Laboratory	1
<input type="radio"/>	<input type="radio"/>	BIOL 1610		Biology I	3
<input type="radio"/>	<input type="radio"/>	BIOL 1615		Biology I Laboratory	1
<input type="radio"/>	<input type="radio"/>	BIOL 3300		General Microbiology	4
<input type="radio"/>	<input type="radio"/>	CMST 2110		Interpersonal Communication (BHU)	3
<input type="radio"/>	<input type="radio"/>	STAT 2000		Statistical Methods	3
<input type="radio"/>	<input type="radio"/>	PHYS 2110		General Physics - Life Sciences	4
<input type="radio"/>	<input type="radio"/>	MATH 1050		College Algebra	4
<input type="radio"/>	<input type="radio"/>	MATH 1060		Trigonometry	2
<input type="radio"/>	<input type="radio"/>	MATH 1210		Calculus I (QL)	4
<input type="radio"/>	<input type="radio"/>	PSC 4600		Cereal Science (DSC/QI)	3
<input type="radio"/>	<input type="radio"/>	NDFS 1010		Chocolate Science, History and Society (BPS)	3

		Course Number	NEW Course	Course Title	Credit Hours
Choose of the following courses:					
<input type="radio"/>	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>	NDFS 1020		Science and Application of Human Nutrition (BLS)	3
<input type="radio"/>	<input type="radio"/>	NDFS 1250		Sanitation and Safety	3
<input type="radio"/>	<input type="radio"/>	NDFS 3110		Food, Technology, and Health (DSC)	3
<input type="radio"/>	<input type="radio"/>	NDFS 5020		Meat Technology and Processing	3
<input type="radio"/>	<input type="radio"/>	NDFS 5025		Meat Technology and Processing Laboratory	1
<input type="radio"/>	<input type="radio"/>	NDFS 5030		Dairy Technology and Processing	3
<input type="radio"/>	<input type="radio"/>	NDFS 5040		Dairy Foods Processing Laboratory	1
<input type="radio"/>	<input type="radio"/>	NDFS 5100		Sensory Evaluation of Foods (QI)	3
<input type="radio"/>	<input type="radio"/>	NDFS 5110		Food Microbiology (CI)	3
<input type="radio"/>	<input type="radio"/>	NDFS 5111		Food Microbiology Laboratory	1
<input type="radio"/>	<input type="radio"/>	NDFS 5250		Occupational Experience in Nutrition and Food Sciences	2
<input type="radio"/>	<input type="radio"/>	NDFS 5500		Food Analysis (QI)	4
<input type="radio"/>	<input type="radio"/>	NDFS 5560		Food Chemistry	4
<input type="radio"/>	<input type="radio"/>	NDFS 5920		Food Product Development (CI)	3
<input type="radio"/>	<input type="radio"/>	NDFS 5510		Food Laws and Regulations	2
<b>Required Course Credit Hour Sub-Total</b>					<b>91</b>
<b>Elective Courses</b>					
<input type="radio"/>	<input type="radio"/>	Any Elective		Students may choose any elective courses	8
Choose of the following courses:					
<input type="radio"/>	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>				
<b>Elective Credit Hour Sub-Total</b>					<b>8</b>
<b>Core Curriculum Credit Hour Sub-Total</b>					<b>120</b>

### Program Curriculum Narrative

*Describe any variable credits. You may also include additional curriculum information.*

## Degree Map

Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see <http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf> (Item #3).

Please cut-and-paste the degree map or manually enter the degree map in the table below.

<b>First Year Fall</b>	<b>Cr. Hr.</b>	<b>First Year Spring</b>	<b>Cr. Hr.</b>
CHEM 1210 - Principles of Chemistry I	4	CHEM 1220 - Principles of Chemistry II (BPS)	4
CHEM 1215 - Chem I Lab	1	CHEM 1225 - Chem II Lab	1
MATH 1050 - College Algebra (QL)	4	MATH 1060 - Trigonometry	2
NDFS 1010 - Chocolate (BPS)	3	NDFS 1020 - Science App Nutrition (BLS)	3
BSS Course	3	ENGL 1010 - Intro Writing (CL1)	3
		BAI Course	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>
<b>Second Year Fall</b>	<b>Cr. Hr.</b>	<b>Second Year Spring</b>	<b>Cr. Hr.</b>
CHEM 2300 - Principles of Organic Chemistry	3	CHEM 3700 - Intro Biochemistry	3
CHEM 2315 - Organic Chem Lab	1	CHEM 3710 - Intro Biochem Lab	1
MATH 1210 - Calculus	4	STAT 2000 - Statistical Methods (QI)	3
BIOL 1610 - Biology I	3	NDFS 1250 - Sanitation and Safety	3
BIOL 1615 - Biology I Lab	1	BCA Course	3
NDFS 3110 - Food, Tech, and Health (DSC)	3	ENGL 2010 - Intermediate Writing (CL2)	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>
<b>Third Year Fall</b>	<b>Cr. Hr.</b>	<b>Third Year Spring</b>	<b>Cr. Hr.</b>
NDFS 5020 - Meat Technology	3	NDFS 5100 - Sensory Eval Food (QI)	3
NDFS 5025 - Meat Tech lab	1	NDFS 5110 - Food Microbiology (CI)	3
NDFS 5560 - Food Chemistry	4	NDFS 5111 - Food Micro Lab	1
BIOL 3300 - Microbiology	4	NDFS 5500 - Food Analysis (QI)	4
PHYS 2110 - Physics for Life Sciences	4	PSC 4600 - Cereal Science (QI)	3
<b>Total</b>	<b>16</b>	<b>Total</b>	<b>14</b>
<b>Fourth Year Fall</b>	<b>Cr. Hr.</b>	<b>Fourth Year Spring</b>	<b>Cr. Hr.</b>
DHA Course	3	NDFS 5510 - Food Laws and Regulations	2
NDFS 5030 - Dairy Technology and Process	3	CMST 2110 - Interpersonal Comm (BHU)	3
NDFS 5040 - Dairy Tech Lab	1	DSS Course	3
NDFS 5920 - Food Prod Dev	3	Electives	5
NDFS 5250 - Occupational Experiences	2		
Elective Course	3		
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>13</b>

### Appendix C: Current and New Faculty / Staff Information

#### Part I. Department Faculty / Staff

Identify # of department faculty / staff (headcount) for the year preceding implementation of proposed program.

	# Tenured	# Tenure -Track	# Non -Tenure Track
Faculty: Full Time with Doctorate	13	4	1
Faculty: Part Time with Doctorate			
Faculty: Full Time with Masters			15
Faculty: Part Time with Masters			
Faculty: Full Time with Baccalaureate			
Faculty: Part Time with Baccalaureate			
Teaching / Graduate Assistants			
Staff: Full Time			17
Staff: Part Time			10

#### Part II. Proposed Program Faculty Profiles

List current faculty within the institution -- with academic qualifications -- to be used in support of the proposed program(s).

	First Name	Last Name	Tenure (T) / Tenure Track (TT) / Other	Degree	Institution where Credential was Earned	Est. % of time faculty member will dedicate to proposed program.	If "Other," describe
<b>Full Time Faculty</b>							
	Karin	Allen	T	PhD	Utah State University	5	
	Luis	Bastarrachea	TT	PhD	University of Massachusetts	45	
	Jeff	Broadbent	T	PhD	Utah State University	5	
	Charles	Carpenter	T	PhD	University of Wisconsin - Madison	5	
	Silvana	Martini	T	PhD	University of La Plata, Argentina	45	
	Donald	McMahon	T	PhD	Utah State University	30	
	Brian	Nummer	T	PhD	Clemson University	20	
	Marie	Walsh	T	PhD	North Carolina State University	40	
	Robert	Ward	T	PhD	University of California - Davis	45	
	Sulaiman	Matarneh	TT	PhD	Virginia Tech University	45	
<b>Part Time Faculty</b>							

#### Part III: New Faculty / Staff Projections for Proposed Program

Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Full Time with Doctorate				No new faculty or staff required.	
Faculty: Part Time with Doctorate					
Faculty: Full Time with Masters					
Faculty: Part Time with Masters					
Faculty: Full Time with Baccalaureate					
Faculty: Part Time with Baccalaureate					
Teaching / Graduate Assistants					
Staff: Full Time					
Staff: Part Time					



## Appendix D: Projected Program Participation and Finance

### Part I.

*Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.*

Three Year Projection: Program Participation and Department Budget						
	Year Preceding Implementation	New Program				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Student Data</b>						
# of Majors in Department	253	260	270	285	295	300
# of Majors in Proposed Program(s)	////	30	35	40	45	50
# of Graduates from Department	51	53	55	58	60	63
# Graduates in New Program(s)	////	7	8	10	10	10
<b>Department Financial Data</b>						
	Department Budget					
	Year Preceding Implementation (Base Budget)	Year 1	Year 2	Year 3		
		Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)		
<i>Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."</i>						
<b>EXPENSES – nature of additional costs required for proposed program(s)</b>						
<i>List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.</i>						
Personnel (Faculty & Staff Salary & Benefits)	\$3,177,123	\$0	\$0	\$0		
Operating Expenses (equipment, travel, resources)	\$161,147	\$0	\$0	\$0		
Other:						
<b>TOTAL PROGRAM EXPENSES</b>	////	\$0	\$0	\$0		
<b>TOTAL EXPENSES</b>	\$3,338,270	\$3,338,270	\$3,338,270	\$3,338,270		
<b>FUNDING – source of funding to cover additional costs generated by proposed program(s)</b>						
<i>Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.</i>						
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Special Legislative Appropriation						
Grants and Contracts						
Special Fees						
Tuition						
Differential Tuition (requires Regents approval)						
<b>PROPOSED PROGRAM FUNDING</b>	////	\$0	\$0	\$0		
<b>TOTAL DEPARTMENT FUNDING</b>	\$3,338,270	\$3,338,270	\$3,338,270	\$3,338,270		
<b>Difference</b>						
Funding - Expense	\$0	\$0	\$0	\$0		

**Part II: Expense explanation**

**Expense Narrative**

*Describe expenses associated with the proposed program.*

The proposed degree replaces a current emphasis and will not require reallocation or additional funding.

**Part III: Describe funding sources**

**Revenue Narrative 1**

*Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.*

The proposed degree replaces a current emphasis and will not require additional funding.

**Revenue Narrative 2**

*Describe new funding sources and plans to acquire the funds.*

The proposed degree replaces a current emphasis and will not require reallocation or additional funding.

Utah System of Higher Education  
New Administrative Unit Proposal  
Cover/Signature Page - Abbreviated Template

Institution Submitting Request: Utah State University

Proposed Effective Date<sup>1</sup>: 07/01/2018

Institutional Board of Trustees' Approval Date:

Proposed Unit Title: Marketing and Strategy Department

Sponsoring School, College, or Division: Jon M Huntsman School of Business

Sponsoring Academic Department(s) or Unit(s):

Proposed Unit Type:

<input checked="" type="checkbox"/>	New Administrative Unit
<input type="checkbox"/>	New Center
<input type="checkbox"/>	New Institute
<input type="checkbox"/>	New Bureau
<input type="checkbox"/>	Conditional Three-Year Approval for New Center, Institute, or Bureau

**Chief Academic Officer (or Designee) Signature:**

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

\_\_\_\_\_ Date:

I understand that checking this box constitutes my legal signature.

<sup>1</sup> "Proposed Effective Date" refers to date after Regent approval when new unit is operational or change to unit is published.

## New Unit Description - Abbreviated Template

### Section I: The Request

Utah State University requests approval to establish Marketing and Strategy Department effective 07/01/2018. This action was approved by the institutional Board of Trustees on .

### Section II: Program Proposal

#### Administrative Unit Description/Rationale

*Present a brief description of the unit. Describe the institutional procedures used to arrive at the action being proposed. Briefly indicate why a new administrative unit or change to the unit is justified. Are similar units offered elsewhere in the USHE or the State? State how the institution and the USHE benefit from the proposed unit or unit change.*

The Management Department in the Jon M Huntsman School of Business is one of the largest and most academically diverse departments at Utah State University. The department has fifty-one full-time faculty and staff, three majors (Business Administration, Marketing, International Business), eight minors (Business, Entrepreneurship, Hospitality and Tourism, Human Resources Management, International Business, Management, Marketing, Operations Management), and two graduate programs (Masters of Human Resources, Masters of Business Administration). It also has nine undergraduate and two graduate student clubs (Society for the Advancement of Ethical Leadership, Entrepreneurship Club, Huntsman Marketing Association, Leaders for Continuous Improvement, Society for Human Resource and Management, Society for International Business and Economic Development, Women in Business Association, Pro Sales, Hospital Administration Association, Master of Business Administration Association, Master of Human Resources Association). The number, diversity, and complexity of programs of study and faculty have made management of the department difficult.

It is proposed that The Management Department be divided into two departments. The new Management Department will include micro business disciplines that are more people focused, as well as law and operations. Faculty in the areas of human resource management, organizational behavior, ethics, law, and operations will remain in the Management department. The proposed Management Department will have 23 faculty and staff. Degree programs housed in the department will include the Bachelor of Business Administration (approximately 673 students) and the Masters of Human Resources (approximately 111 students).

The new department will be named The Department of Marketing and Strategy. It will include more macro and market focused disciplines including Marketing, Strategy, Entrepreneurship, and Leadership. The department will have 28 faculty and staff. Undergraduate degree programs offered will include majors in Marketing (approximately 345 students) and International Business (approximately 118 students). The Masters of Business Administration (approximately 225 students) is a Huntsman School program involving classes from all departments that will be administered by the new Department of Marketing and Strategy.

Dividing The Management Department into two departments each with a tighter cluster of disciplines will benefit students, faculty, and the Huntsman School of Business. Faculty within the proposed departments will share more focused theoretical and conceptual space for teaching and research collaboration. Programs of study will be more manageable, enabling support for them to be more targeted and

presenting opportunities for them to develop a stronger market image. The size of each department will allow strategic planning, people and program support, and overall administrative oversight to be carried out in a more focused manner allowing the units to better support the Huntsman School and the university. It will also enable potential future growth and new initiatives to be managed more meaningfully than can be accomplished by a department that has already exceeded an efficient operating size.

All other universities in the state of Utah have already established departments focusing upon Management/Business Administration and Marketing, indeed having two departments for these functional areas is the norm nationally. The proposed change will enable the Huntsman School of Business to operate in a more effective manner and in a way that is consistent with the structure of leading business schools nationwide.

### **Consistency with Institutional Mission/Institutional Impact**

*Explain how the unit is consistent with the institution's Regents-approved mission, roles, and goals. Describe how the existing administrative structures support the proposed unit and identify new organizational structures that may be needed. What changes in faculty and staff will be required?*

The Utah State Board of Regents' Strategic Plan 2025 lists increasing capacity to serve 50,000 + new students by 2025 as a primary objective. It goes on to state that "it will be a significant challenge to grow capacity academically (faculty, course sections, and support staff), physically (capital facilities, infrastructure), and virtually (information technology resources) to keep pace with such rapid enrollment growth over the next decade." In January 2015, the Board of Regents also adopted three long term objectives for higher education in Utah. They included 1. Increase the number of Utahns who decide to access, are prepared for, and succeed in higher education; 2. Increase the percentage of students who persist in and graduate from higher education; 3. Encourage innovation as a core value at each USHE institution, in keeping with its distinct mission.

The proposed division of the Management Department is consistent with positioning the Huntsman School to respond to priorities of the State Board of Regents in a manner that is consistent with the mission of the school and USU. Over the past five years the numbers of students majoring in business administration and marketing have each increased by an average annual rate of over 20% (trends shown below). This growth is expected to continue. The two degrees are both offered throughout Utah using creative live, broadcast, hybrid and on-line pedagogies. In addition, collaboration with Snow College and Salt Lake Community College have helped students completing their associate degrees at those institutions easily matriculate into the USU degree programs in Marketing and Business Administration and take USU classes on those campuses.

### **Student Enrollment Trends**

<b>Year</b>	<b>Business Administration</b>	<b>Marketing</b>
2012	322	169
2013	431	207
2014	531	283
2015	581	325
2016	673	345

In addition to the growth and outreach opportunities described above, significant potential exists to more fully leverage other programming (minors, graduate programs, student organizations, experiential learning) and to expand support for students outside the Logan campus. The current administrative structure does not lend itself to the effective management of such opportunities.

## **Finances**

*What costs or savings are anticipated with the actions proposed? What new facilities or modifications to existing facilities or equipment are needed? Describe any budgetary impact on other programs or units within the institution. If new funds are required, describe expected sources of funds.*

The proposed creation of the new department will not involve the addition of new faculty or staff merely a reallocation of existing personnel between the existing and new administrative units. Incremental expenses associated with a new department head will be met from Huntsman School Resources. A recent renovation of the Eccles Business Building, funded by the Huntsman School, created a new department suite, thus no additional resources are needed to situate the new department other than for office equipment and supplies that will be funded internally.

**Utah System of Higher Education  
New Academic Program Proposal  
Cover/Signature Page - Full Template**

**Institution Submitting Request:** Utah State University  
**Proposed Program Title:** Master of Science in Data Science  
**Sponsoring School, College, or Division:** College of Engineering  
**Sponsoring Academic Department(s) or Unit(s):** Computer Science  
**Classification of Instructional Program Code<sup>1</sup> :** 11.0701, 14.0903  
**Min/Max Credit Hours Required of Full Program:** 30 / 30  
**Proposed Beginning Term<sup>2</sup>:** Fall 2018  
**Institutional Board of Trustees' Approval Date:**

**Program Type (check all that apply):**

<input type="checkbox"/> (AAS)	Associate of Applied Science Degree
<input type="checkbox"/> (AA)	Associate of Arts Degree
<input type="checkbox"/> (AS)	Associate of Science Degree
<input type="checkbox"/>	Specialized Associate Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (BA)	Bachelor of Arts Degree
<input type="checkbox"/> (BS)	Bachelor of Science Degree
<input type="checkbox"/>	Specialized Bachelor Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/> (MA)	Master of Arts Degree
<input checked="" type="checkbox"/> (MS)	Master of Science Degree
<input type="checkbox"/>	Specialized Master Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Other (specify award type <sup>3</sup> : )
<input type="checkbox"/>	Doctoral Degree (specify award type <sup>3</sup> : )
<input type="checkbox"/>	K-12 School Personnel Program
<input type="checkbox"/>	Out of Service Area Delivery Program
<input type="checkbox"/>	Out of Mission Program
<input type="checkbox"/>	NEW Profess. School

**Chief Academic Officer (or Designee) Signature:**

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Please type your first and last name \_\_\_\_\_ Date: \_\_\_\_\_

I understand that checking this box constitutes my legal signature.

<sup>1</sup> For CIP code classifications, please see <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>.

<sup>2</sup> "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

<sup>3</sup> Please indicate award such as APE, BFA, MBA, MEd, EdD, JD

## Utah System of Higher Education Program Description - Full Template

### Section I: The Request

Utah State University requests approval to offer the following Master's degree(s): Master of Science in Data Science effective Fall 2018. This program was approved by the institutional Board of Trustees on .

### Section II: Program Proposal

#### Program Description

*Present a complete, formal program description.*

Academic and industry researchers are increasingly using data-driven methods to build models of complex systems for forecasting, prediction, risk management, or strategic decision-making. As evidence of a trend in research, in 2012, the White House announced the first "Big Data Research and Development Initiative" spanning NSF, DoD, NIH, DARPA, DoE, and USGS. As summarized by one report from the White House Big Data Initiative, the demand for data scientists is becoming more acute "as the collection, storage, and analysis of data continues on an upward and seemingly boundless trajectory, fueled by increases in processing power, the cratering costs of computation and storage, and growing number of sensor technologies embedded in devices of all kinds." see Big Data: Seizing Opportunities, Preserving Values. In 2011 a McKinsey report estimated there would be 140,000 to 190,000 unfilled positions of U.S. data science and analytics experts by 2018. For companies like Google, Facebook, LinkedIn, Amazon, and Walmart data science is becoming integrated into their business models. They are investing heavily in large-scale data analytics and the software needed to extract information from massive datasets.

The demand for data scientists motivates the underlying objectives of this program: to prepare the students through cross-disciplinary training to develop innovative software solutions that improve the efficiency and scope of data science tools.

Students obtaining a Master of Science in Data Science will be able to:

1. Develop innovative software solutions that improve the efficiency and scope of data science tools;
2. Apply existing programming tools, languages, and algorithms to build, clean and process large datasets as efficiently as possible;
3. Understand how to successfully work with multidisciplinary teams to identify and construct computational solutions to solve problems from a diversity of domains within Utah industries and departments and research centers throughout USU;
4. Understand how to expand the functionality of state-of-the-art high-performance data science software.  
Students completing the Master of Data Science program will thus be prepared to compete in the modern job market. USU currently has no Computer Science MS degree in Data Science. To satisfy the needs of students, prospective employers, and communities, the CS department proposes to offer a Master of Science in Data Science that will be offered as a Plan A MS degree only.

To earn a Master of Science of Data Science degree, students must:

- Take at least 30 credits in total
- Take at least five core Computer Science or Statistics courses. Among the five courses, at least three courses should be at the 6000 level
- Actively participate in the new Incubator course (CS 5830/6830) that brings together CS data science students with students



from across campus working on applied data science research.

- Take six research credits
- Take additional multidisciplinary courses with their major professor's approval

### Consistency with Institutional Mission

*Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals (see mission and roles at [higheredutah.org/policies/policyr312](http://higheredutah.org/policies/policyr312)) or, for "out of mission" program requests, the rationale for the request.*

The mission of Utah State University is to be one of the nation's premier student-centered land grant and space grant universities by fostering the principle that academics come first; by cultivating diversity of thought and culture; and by serving the public through learning, discovery, and engagement. The Master of Science in Computer Science program proposed here will advance these objectives, not only within the Computer Science Department, but also throughout the University and across Utah. Students trained under this program will gain valuable skills that are in high demand and contribute to the growing high-tech economy in Utah, particularly across the Wasatch front. This year, the university has begun a "big data" initiative with new faculty lines introduced across several colleges, including Education, Natural Resources, Business, Ag, Science, and Engineering. Computer Science will play a pivotal role in this effort because computer scientists research, design and implement the software and algorithms that make these "big data" systems work.

## Section III: Needs Assessment

### Program Rationale

*Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.*

A new Master of Science program is required to satisfy the rapid growth in the demand for computer scientists who specialize in data science. A new MS program is required rather than a limited expansion of the existing general computer science MS because data science requires a distinct program of a variety of fundamental and multidisciplinary courses and an extensive set of specialized computer science skills. The Computer Science department has laid the groundwork for this initiative over the last three years with one new faculty hire and one new adjunct faculty in data science, machine learning and data mining. This new program will help unify research efforts across campus and complement the new Master of Data Analytics program in Statistics and Business.

### Labor Market Demand

*Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer ([jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do](http://jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do)) and the Occupation Outlook Handbook ([www.bls.gov/oco](http://www.bls.gov/oco)).*

There is a significant imbalance between the supply and the demand for Data Scientists. Glassdoor report ([www.glassdoor.com](http://www.glassdoor.com)) ranks Data Scientist as the "Best Job in America for 2016" based on career opportunities, the number of open data science jobs and average salaries earned by data scientists. According to this site, the nationwide average Data Scientist earns \$113,000 compared to \$63,500 for the average software engineer. The *McKinsey Global Institute* estimates that by 2018, the U.S will need an additional 140,000 to 190,000 individuals with data science skills. Both Bloomberg Business week (see [Help Wanted: Black Belts in Data](#)) and the Wall Street Journal ([New Report Puts Numbers on Data Scientist Trend](#)) have more recently reported starting salaries for well-qualified data scientists in excess of \$200K ([As Tech Booms, Workers Turn to Coding for Career Change](#)). Bloomberg additionally cites summer internships for students that are currently paying \$6000-\$10000 per month.

### Student Demand

*Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.*

The classes offered in the existing graduate program with a Data Science emphasis have the highest enrollments compared to

other classes. These include CS 5800: Databases - 56 students, CS 6800: Advanced databases - 60 students, CS 5665: Introduction to Data Science - 32 students, and CS 6675: Advance Data Science and Mining - 23 students. Based on the market research quoted above, a high student demand is anticipated for this program.

### Similar Programs

*Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?*

In 2014 the University of Utah initiated a "big data certificate" offered by the Computing Department. The certificate requires students to take five core classes in Advanced Algorithms, Database Systems, Data Mining, Machine Learning and Visualization. The department now offers a Big Data Masters (MS in Computing) and a Big Data Ph.D. (Ph.D. in Computing) (<http://www.cs.utah.edu/bigdata/>). The MS program extends the certificate requirements for a plan A specialization to include three electives and a thesis. The Ph.D. requires a Ph.D. dissertation.

The proposed Data Science program will complement the UoU's program by taking a multidisciplinary approach where data science faculty from other departments (strengthened by the cluster hire process) work directly with CS faculty and students to develop solutions to real problems, facilitated by a new incubator course. This applied approach fits well with USU's land-grant mission.

### Collaboration with and Impact on Other USHE Institutions

*Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in [higherutah.org/policies/policyr315/](http://higheredutah.org/policies/policyr315/). Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.*

The proposed Data Science program will not be delivered outside of the designated service area. It should not have an adverse impact on other USHE institutions due to its multidisciplinary nature and the magnitude of the target population. It is anticipated that many of the program participants will come from other closely-related and application-specific fields.

### External Review and Accreditation

*Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.*

There are no accreditation requirements for this program. However, the CS department's industrial advisory board will periodically evaluate the curriculum and student success.

## Section IV: Program Details

### Graduation Standards and Number of Credits

*Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at [higherutah.org/policies/R401](http://higheredutah.org/policies/R401).*

Students must complete 30 credit hours as detailed below in Appendix A. All students will complete a Plan A MS which includes the completion of a Thesis that will be reviewed by their committee.

### Admission Requirements

*List admission requirements specific to the proposed program.*

A bachelors degree in Computer Science or closely related field. Coursework in basic Statistics (equivalent to STAT 3000).

## Curriculum and Degree Map

*Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.*

## Section V: Institution, Faculty, and Staff Support

### Institutional Readiness

*How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?*

The department's graduate programs organization is well positioned to handle the extra administrative load this new program will entail. Currently, the Associate Department Head oversees the graduate program of approximately 60 MS students and 30 PhD students. Effective oversight by the CS faculty will be sufficient to cover the administration during initial growth of this new program. The undergraduate program is experiencing rapid growth and has recently hired two new instructors to teach undergraduate courses full time to cover the extra classes required. No adverse effects on the quality of the undergraduate program are anticipated due to this new MS program. Indeed, it is expected that the addition of 5000 level classes in data science related topics will improve the readiness of the graduating undergraduate students.

### Faculty

*Describe faculty development activities that will support this program. Will existing faculty/instructors, including teaching/graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.*

Two CS faculty members have developed and offered three graduate courses in data science: CS 5800: Introduction to Database Systems, CS 6800: Advanced Database Systems, and CS 5665: Introduction to Data Science. One faculty member has offered to teach CS 6665: Data Mining. The CS department has hired one new faculty member in 2017 so that CS 6890: Special Topics in Data Science, can be offered along with other relevant new courses to be developed. Additionally, the department is committed to hire an additional teaching faculty for existing undergrad courses, freeing up teaching duties for research faculty needed to teach the new graduate courses. Teaching assistants will be provided as needed, funded completely or in part by the differential tuition generated by the courses themselves.

### Staff

*Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.*

No additional staff will be required for this program.

### Student Advisement

*Describe how students in the proposed program will be advised.*

Students in the new program will be advised by their major professor and committee.

### Library and Information Resources

*Describe library resources required to offer the proposed program if any. List new library resources to be acquired.*

No additional library and information resources will be required. Existing library resources plus those available on the web are

sufficient to fully support the program.

## **Projected Enrollment and Finance**

*Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.*

## **Section VI: Program Evaluation**

### **Program Assessment**

*Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.*

As part of our graduate program assessment, the CS department is working with the USU Office of Analysis, Assessment, and Accreditation to develop an accreditation processes for the CS graduate program based on best practices developed by the Northwest Commission of Colleges and Universities. This process will be applied to the Data Science program.

### **Student Standards of Performance**

*List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.*

The field of Data Science is inherently interdisciplinary. As such, students will be expected to gain competency in the core areas of databases, data mining, big data management, computational modeling, and their application in a diversity of application domains. As appropriate, formative and summative assessment measures for each core competency may include: master exams, class performance, evaluations and assignments, practicum evaluations, group projects, presentations, and software demonstrations.

A very important part of the programs will be the thesis. A minimum of 6 credit hours of work on the thesis is required. A written proposal will be submitted to the student's Supervisory Committee before the student begins working on the thesis. The student will defend the thesis work to his or her supervisory committee and the department as a whole. The quality of the thesis will serve as a crucial metric of the student's success and performance.

## Appendix A: Program Curriculum

List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.

For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.

		Course Number	NEW Course	Course Title	Credit Hours
General Education Courses (list specific courses if recommended for this program on Degree Map)					
<b>General Education Credit Hour Sub-Total</b>					
Required Courses					
<input type="checkbox"/>	<input type="checkbox"/>	CS 5800		Introduction to Database Systems	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6800		Advanced Database Systems	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6665		Data Mining	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 5665		Introduction to Data Science	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6675		Advanced Data Science and Mining	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 5830/6830		Data Science Incubator	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6970		Thesis and Research	6
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				
<b>Required Course Credit Hour Sub-Total</b>					24
Elective Courses					
<input type="checkbox"/>	<input type="checkbox"/>			Select 2 of the following courses:	
<input type="checkbox"/>	<input type="checkbox"/>	CS 6890		Topics in Computer Science (Special Topics in Data Science)	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6680		Computer Vision: Foundations and Applications	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6600		AI: Advanced Intelligence Systems	4
<input type="checkbox"/>	<input type="checkbox"/>	STAT 5810		Topics in Statistics (Introduction to Statistical Computing)	3
<input type="checkbox"/>	<input type="checkbox"/>	STAT 6550		Statistical Computing	3
<input type="checkbox"/>	<input type="checkbox"/>	STAT 6650		Stat Learning: Multivariate Stat Analysis for Bioinformatics, Data	3
<input type="checkbox"/>	<input type="checkbox"/>	CS 6250		Cooperative Work Experience, Graduate	3
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				
Choose 2 of the following courses:					
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				
<b>Elective Credit Hour Sub-Total</b>					6
<b>Core Curriculum Credit Hour Sub-Total</b>					30

## Program Curriculum Narrative

*Describe any variable credits. You may also include additional curriculum information.*

This Plan A program includes 18 hours of core computer science courses that provide the necessary skill set for a data scientist in computer science. CS 5800 and CS 6800 courses cover large data storage and management methods in databases; CS 5665 introduces the fundamental concepts and practices of data science; CS 6665 and CS 6675 include state-of-the-art algorithms and methodologies and their implementation in class projects; CS 6830 applies the "business incubator" model employed in industry and aims to give students real-world experience in working with domain experts to produce proof-of-concept data science applications. This class, which may be repeated, is based on the recent entrepreneurial process of that bring diverse groups of scientists, engineers and business experts together to explore the feasibility of new technologies. In this class, the experts will be researchers, faculty and their students from other departments that are currently working in data science. Teams will be formed based on the application and computational need, and CS students will be assigned to assist in the implementation of the projects. It is anticipated that many of the projects arising from these collaborations will form the Plan A theses topics for Data Science MS students. A student must pursue the Plan A option with the minimum of 30 credit hours, six of which must be thesis hours, designated as CS 6970. These requirements mirror the existing Computer Science MS.

The department will offer special topics classes in Data Science based on advancements in technology, specific research interests of faculty and perceived need. Other than this CS option, only a few possible elective courses are listed. The field of data science and the course offerings within the university are in a state of flux, with many colleges adding new courses covering data science from their perspective. In particular, the Statistics department in the College of Science has developed a data science program and added some new courses. Statistics underlies many of the methods applied in Data Science, and CS students will be directed to take appropriate courses that have been developed or being initiated. There is a different focus for the CS MS Data Science program and the Science/Business MS in Data Analytics program. However, each program will work together and be complimentary.

Data Science is multidisciplinary and covers a broad range of problems and methods. The classes listed above as electives are a sampling of possible classes the students may take. Many additional classes in data science related areas are currently being designed and approved. The CS program in Data Science needs to be flexible to customize the degree to the requirements and objectives of each student. This is the underlying reason for the built-in flexibility of classes outside the CS core. In every case, classes outside of the core must be approved by the student's committee and managed using the standard Program of Study process.

## **Degree Map**

*Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see <http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf> (Item #3).*

*Please cut-and-paste the degree map or manually enter the degree map in the table below.*





	First Name	Last Name	Tenure (T) / Tenure Track (TT) / Other	Degree	Institution where Credential was Earned	Est. % of time faculty member will dedicate to proposed program.	If "Other," describe
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Part III: New Faculty / Staff Projections for Proposed Program

*Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.*

	# Tenured	# Tenure -Track	# Non -Tenure Track	Academic or Industry Credentials Needed	Est. % of time to be dedicated to proposed program.
Faculty: Full Time with Doctorate	0	1	0		60%
Faculty: Part Time with Doctorate	0	0	0		
Faculty: Full Time with Masters	0	0	0		
Faculty: Part Time with Masters	0	0	0		
Faculty: Full Time with Baccalaureate	0	0	0		
Faculty: Part Time with Baccalaureate	0	0	0		
Teaching / Graduate Assistants	///	///	10		30%
Staff: Full Time	0	0	0		
Staff: Part Time	0	0	0		

## Appendix D: Projected Program Participation and Finance

### Part I.

*Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.*

Three Year Projection: Program Participation and Department Budget						
	Year Preceding Implementation	New Program				
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Student Data</b>						
# of Majors in Department	630	674	721	771	825	883
# of Majors in Proposed Program(s)	////	5	10	20	30	40
# of Graduates from Department	84	89	96	102	110	117
# Graduates in New Program(s)	////	0	5	10	20	30
<b>Department Financial Data</b>						
	Department Budget					
	Year Preceding Implementation (Base Budget)	Year 1	Year 2	Year 3		
		Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)	Addition to Base Budget for New Program(s)		
<i>Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."</i>						
<b>EXPENSES – nature of additional costs required for proposed program(s)</b>						
<i>List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.</i>						
Personnel (Faculty & Staff Salary & Benefits)	\$2,029,180	\$116,000	\$162,690	\$165,943		
Operating Expenses (equipment, travel, resources)	\$92,149					
Other:						
<b>TOTAL PROGRAM EXPENSES</b>	////	\$116,000	\$162,690	\$165,943		
<b>TOTAL EXPENSES</b>	\$2,121,329	\$2,237,329	\$2,284,019	\$2,287,272		
<b>FUNDING – source of funding to cover additional costs generated by proposed program(s)</b>						
<i>Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.</i>						
Internal Reallocation						
Appropriation						
Special Legislative Appropriation						
Grants and Contracts						
Special Fees						
Tuition						
Differential Tuition (requires Regents approval)						
<b>PROPOSED PROGRAM FUNDING</b>	////	\$0	\$0	\$0		
<b>TOTAL DEPARTMENT FUNDING</b>	\$0	\$0	\$0	\$0		
<b>Difference</b>						
Funding - Expense	(\$2,121,329)	(\$2,237,329)	(\$2,284,019)	(\$2,287,272)		

## Part II: Expense explanation

### Expense Narrative

*Describe expenses associated with the proposed program.*

A cluster hire specifically in Data Science is underway University-wide. Faculty are being hired over a diversity of colleges and departments to support USU's new emphasis in Data Science. Many of these hires are directed to support specific applications of Data Science in the Colleges of Business, Agriculture, Education, Natural Resources, Science and the Humanities. Computer Science has been allocated one of these positions to support the proposed MS DS program specifically. One faculty member has been hired. This new hire will contribute to teaching the existing Data Science classes and the newly proposed classes in advanced topics and the incubator class. A search for another faculty member is underway.

The allocation of additional space for teaching, faculty offices, research and staff is underway. The College of Engineering is in the process of arranging for the CS department to move to a building local to the Engineering building that will increase the square footage available. Additionally, there is a commitment to invest in the extensive remodeling of this space to better accommodate the needs of the CS department.

## Part III: Describe funding sources

### Revenue Narrative 1

*Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.*

The department is committed to hiring an additional teaching faculty for undergrad courses, freeing up teaching duties for research faculty needed to teach the new grad courses. Teaching assistants for these courses will be provided as needed, funded completely or in part by the differential tuition generated by the courses themselves.

### Revenue Narrative 2

*Describe new funding sources and plans to acquire the funds.*

Current faculty members will assist in the development and maintenance of this program. Money for one new hire has already been allocated and the faculty member has been hired.