

SOUTH DAKOTA BOARD OF REGENTS

Full Board

AGENDA ITEM: U

DATE: March 22-24, 2000

SUBJECT: Bachelor of Applied Technical Science

AAC and COPS recommend approval of the Bachelor of Applied Technical Science (BATS) effective Fall 2000. The BATS will be offered only at Black Hills State University and South Dakota State University because both institutions currently offer technology programs. The following options will be provided:

BHSU

- General Supervision
- General Technology
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SDSU

- Industrial Sales
- Industrial Supervision
- General Supervision
- General Technology
- Applied Agriculture

The Bachelor of Applied Technical Science (BATS) will permit students to build upon the technical skills and applied knowledge base of the Associate of Applied Science degree. The program is designed to:

- Provide an expanded knowledge base for professionals in technical disciplines who have completed an Associate of Applied Science degree
- Respond to employer demand for employees with both technical and organizational skills
- Meet the needs of the adult learner for career advancement
- Transfer up to 64 credit hours in accordance with Board of Regents policies

(continued)

RECOMMENDED ACTION OF THE EXECUTIVE DIRECTOR

Approve the Bachelor of Applied Technical Science at BHSU and SDSU as proposed.

In January 2000, the Regents voted (effective at the end of the Spring 2000 semester) to continue to recognize only those agreements with the South Dakota Technical Institutes that had been reviewed since July 1, 1998. The BATS degree replaces the agreements that had not been reviewed. AAC will be developing guidelines for transfer of individual courses from SD technical institutes.

Refer to the attachments listed below.

- I BATS: Purpose, Requirements, Options
- II BATS Degree Requirements
- III BHSU BATS: Options, Semester Plans
- IV SDSU BATS: Options, Semester Plans

**SOUTH DAKOTA BOARD OF REGENTS
BACHELOR OF APPLIED TECHNICAL SCIENCE
Black Hills State University
South Dakota State University**

PURPOSE

The Bachelor of Applied Technical Science (BATS) permits students to build upon the technical skills and applied knowledge base of the Associate of Applied Science degree. The program is designed to:

- Provide an expanded knowledge base for professionals in technical disciplines
- Respond to employer demand for employees with both technical and organizational skills
- Meet the needs of the adult learner for career advancement
- Transfer up to 64 credit hours in accordance with Board of Regents policies

REQUIREMENTS

Students who wish to enroll in the BATS program at BHSU or SDSU must meet the following requirements:

- Have completed an Associate of Applied Science degree
- Meet university admissions requirements

In order to complete the BATS program, students must meet all Board of Regents policies and requirements specified for the following:

- Program
 - For example: specified courses, grade point average, examinations
- Graduation
 - For Example: 128 hours, 2.0 cumulative grade point average, general education requirements, proficiency examination
- Minimum of 64 credit hours from BHSU or SDSU
- Minimum of 40 credit hours at the 300/400 level at BHSU, or a minimum of 20 credit hours at the 300/400 level at SDSU

BATS OPTIONS

BHSU

- General Supervision
- General Technology

SDSU

- Industrial Sales
- Industrial Supervision
- General Supervision
- General Technology
- Applied Agriculture

**BACHELOR OF APPLIED TECHNICAL SCIENCE (BATS)
DEGREE REQUIREMENTS**

Black Hills State University

Requirements	University Credit Hours	Technical Institute Transfer of Credit Hours
System General Education*	30	0-15
Institutional Graduation Requirements	11	0
Information Technology Literacy	Exam	0
Applied Technical Science Transfer	49	49
BATS Courses Required for Both Options	18	
BATS Options: Supervision	18	
General Technology	18	
Electives	2	
Total Hours: BATS	128	49-64

South Dakota State University

Requirements	University Credit Hours	Technical Institute Transfer of Credit Hours
System General Education*	30	0-15
Institutional Graduation Requirements	10	0
Information Technology Literacy	In Option	0
Applied Technical Science Transfer	49	49
BATS Courses Required for Options Below	17	
Options: Industrial Sales	21	
Industrial Supervision	21	
General Supervision	21	
General Technology	21	
BATS Option: Applied Agriculture	36	
Electives	1	
Total Hours: BATS	128	49-64

*Based on System articulation agreement

BLACK HILLS STATE UNIVERSITY
Bachelor of Applied Technical Science

Semester Plans

BATS Courses Required for Both Options	Hours
Junior Fall	
BAD 360 Organization and Management	3
ENTR 360 New Venture Creation	3
General Education	9
HLTH 100/101 Wellness for Life/Lab	2
Total Hours	17
Junior Spring	
BAD 344 Managerial Communications, or SPCM 474 Organizational Communication	3
HRM 360 Human Resource Management	3
MKT 370 Marketing	3
PSYC 375 Industrial and Organizational Psychology	3
General Education	3
Total Hours	15
General Supervision	
Senior Fall	
BAD 457 Business Ethics	3
HRM 456 Employment Law and Policy	3
HRM 464 Organizational Behavior	3
General Education	3
Institutional Graduation Requirement (300/400)	3
Total Hours	15
Senior Spring	
BAD 493 Special Topics in Business: Applied Technical Science	3
HRM 459 Personnel Planning and Selection	3
HRM 465 Compensation management	3
Institutional Graduation Requirement (300/400)	6
Electives	2
Total Hours	17

General Technology**Senior Fall**

TECH 330 Communication Technology	3
TECH 391 Construction	3
TECH 496 Enterprise Systems	3
General Education	3
Institutional Graduation Requirement (300/400)	3
Total Hours	15

Senior Spring

BAD 493 Special Topics in Business: Applied Technical Science	3
ENTR 324 Business Structuring and Development	3
TECH 362 Energy, Power, and Transportation	3
Institutional Graduation Requirement (300/400)	6
Electives	2
Total Hours	17

SOUTH DAKOTA STATE UNIVERSITY
Bachelor of Applied Technical Science

**Options in Industrial Sales, Industrial Supervision,
 General Supervision and General Technology**

BATS Courses Required for Above Options	Hours
CSC 312 Advanced Microcomputer Applications	3
MNET 231/231A Manufacturing Processes I	3
MNET 260 Production/Operations Management	3
MNET 494 Cooperative Education	3
MATH 113 College Algebra and Trigonometry	3
Total	17

Courses in Options
Industrial Sales

BADM 474 Principles of Selling	3
ECON 370 Marketing	3
GE 120/120A Engineering Drawing/CAD	3
MNET 251/251A Electricity and Electronics I	3
MNET 252/252A Electricity and Electronics II	3
MNET 334/334A CAM/CNC	3
MNET 451/451A Industrial Electronics and Control	3
Total	21

Industrial Supervision

ECON 467 Labor, Law and Economics	3
GE 120/120A Engineering Drawing/CAD	3
MNET 365 Occupational Safety and Health	3
MNET 367 Plant Layout and Material Handling	3
MNET 462 Quality Management	3
MNET 463 Production and Inventory Management	3
MNET 468 Manufacturing Plant Management	3
Total Credit Hours in Option	21

Courses in Options	Hours
General Supervision	
BADM 334 Small Business Management	3
BADM 360 Organization and Management	3
ECON 467 Labor, Law and Economics	3
EDFN 375 Human Relations	3
MNET 365 Occupational Safety and Health	3
SOC 233 Introduction to Leadership	3
SOC 353 Sociology of Work	3
Total Credit Hours in Option	21
General Technology	
AST 342/342A Applied Electricity	3
AST 423/423A Rural Structures	3
AST 443/443A Food Process and Engineering Fundamentals	3
GE 120/120A Engineering Drawing/CAD	3
MNET 251/251A Electricity and Electronics I	3
MNET 252/252A Electricity and Electronics II	3
MNET 334/334A CAM/CNC	3
Total Credit Hours in Option	21

SOUTH DAKOTA STATE UNIVERSITY
Bachelor of Applied Technical Science

Option in Applied Agriculture

Courses	Hours
AGEC 354 Agricultural Marketing and Prices	3
AGEC elective numbered 300 or 400	3
AS 285 Livestock Evaluation and Marketing, or PS 223/223A Plant Pathology	3
AS 323 Advanced Animal nutrition, or PS 307 Insect Pest Management	3
AS 332 Principles of Animal Breeding, or PS 305/305A General Entomology	3
AS 474 Beef Cattle Production, or AS 478 Swine Production, or PS 323 Soil Fertility and Fertilizers, or PS 333 Diseases of Field Crops	3
AST 303 Design Management Experience	3
AST elective numbered 300 or 400	3
BIO 371 Genetics	3
AGEC, ECON, BADM, ABS, AS, AST, DS, HO, PS OR RANG electives numbered 300 or 400	9
	36

Bachelor of Applied Technical Science
Option: Industrial Sales

Junior Year

Fall	Credits
MATH 113, College Algebra and Trigonometry	5
GE 120/120A, Engineering Drawing/CAD	3
Engl 201 Composition II	3
General Education	<u>6</u>
Total	17

Spring	Credits
MNET 231/231A, Manufacturing Processes I	3
MNET 251/251A, Electricity and Electronics I	3
PHYS 101/102, Survey of Physics (IGR #4)	4
General Education	<u>7</u>
Total	17

Senior Year

Fall	Credits
MNET 252/252A, Electricity & Electronics II	3
MNET 260, Production/Operations Management	3
MNET 334/334A, CAM/CNC	3
MNET 451/451A, Industrial Electronics & Control	3
GE 231, Technology & Society (IRG #5)	<u>3</u>
Total	15

Spring	Credits
BAdm 474, Principles of Selling	3
CSC 312, Advanced Microcomputer Applications	3
Econ 370, Marketing	3
MNET 494, Cooperative Education	3
Institutional Graduation Requirement (300/400)	<u>3</u>
Total	15

Total **64**

A total of 20 credits of 300/400 level coursework are required.

INDUSTRIAL SALES			
Semester	General Education (15 hrs)	Institutional Graduation Requirement (10 hrs)	Information Technology Literacy (3 hrs)
Junior Fall	ENGL 201 3		
	GenE 6		
Junior Spring	GenE 7	PHYS 101/102 4	
Senior Fall		GE 231 3	
Senior Spring		IGR 3	CSC 312 (included in option)
Total	16**	10	0

**1 hour of science meets the elective requirement

Bachelor of Applied Technical Science
Option: Industrial Supervision

Junior Year

Fall	Credits
MATH 113, College Algebra and Trigonometry	5
GE 120/120A, Engineering Drawing/CAD	3
Engl 201 Composition II	3
General Education	<u>6</u>
Total	17

Spring	Credits
STAT 281, Statistical Methods (IGR #4)	3
MNET 260, Production/Operations Mgmt.	3
General Education	7
Institutional Graduation Requirement	4
Total	17

Senior Year

Fall	Credits
CSC 312 Advanced Microcomputer Applications	3
GE 231, Technology & Society (IRG #5)	3
MNET 231/231A, Manufacturing Processes I	3
MNET 367, Plant Layout & Material Handling	3
MNET 463, Production & Inventory Management	<u>3</u>
Total	15

Spring	Credits
Econ 467, Labor, Law & Economics	3
MNET 365, Occupational Safety & Health	3
MNET 462, Quality Management	3
MNET 468, Manufacturing Plant Management	3
MNET 494, Cooperative Education	<u>3</u>
Total	15

Total **64**

A total of 20 credits of 300/400 level coursework are required.

INDUSTRIAL SUPERVISION			
Semester	General Education (15 hrs)	Institutional Graduation Requirement (10 hrs)	Information Technology Literacy (3 hrs)
Junior Fall	ENGL 201 3		
	GenE 6		
Junior Spring	GenE 7	IGR 4	
		STAT 281 3	
Senior Fall		GE 231 3	
Senior Spring			CSC 312 (included in option)
Total	16**	10	0

**1 hour of science meets the elective requirement

Bachelor of Applied Technical Science
Option: General Supervision

Junior Year

Fall	Credits
MATH 113, College Algebra and Trigonometry	5
CSC 312, Advanced Microcomputer Applications	3
Engl 201 Composition II	3
General Education	<u>6</u>
Total	17

Spring	Credits
GE 231, Technology & Society (IGR #5)	3
BAdm 334, Small Business Management	3
SOC 233, Introduction to Leadership	3
General Education	<u>7</u>
Total	16

Senior Year

Fall	Credits
MNET 231/231A, Manufacturing Processes I	3
MNET 260, Production/Operations Mgmt.	3
MNET 365, Occupational Safety & Health	3
BAdm 360, Organization & Management	3
Soc 353, Sociology of Work	<u>3</u>
Total	15

Spring	Credits
EdFn 375, Human Relations	3
Institutional Graduation Requirement	7
Econ 467, Labor, Law & Economics	3
MNET 494, Cooperative Education	<u>3</u>
Total	16

Total 64

A total of 20 credits of 300/400 level coursework are required.

GENERAL SUPERVISION			
Semester	General Education (15 hrs)	Institutional Graduation Requirement (10 hrs)	Information Technology Literacy (3 hrs)
Junior Fall	ENGL 201 3		
	GenE 6		
Junior Spring	GenE 7	GE 231 3	
Senior Fall			
Senior Spring		IGR 7	CSC 312 (included in option)
Total	16**	10	0

**1 hour of science meets the elective requirement

Bachelor of Applied Technical Science
Option: General Technology

Junior Year

Fall	Credits
MATH 113, College Algebra and Trigonometry	5
GE 120/120A, Engineering Drawing/CAD	3
ENGL 201 Composition II	3
General Education	<u>7</u>
Total	18

Spring	Credits
MNET 260, Production/Operations Management	3
CHEM 106/106A, Chemistry Survey (IGR #4)	4
CSC 312, Advanced Microcomputer Applications	3
General Education	<u>6</u>
Total	16

Senior Year

Fall	Credits
GE 231, Technology & Society (IRG #5)	3
AST 342/342A, Applied Electricity	3
AST 423/423A, Rural Structures	3
MNET 231/231A, Manufacturing Processes I	3
MNET 251/251A, Electricity and Electronics I	<u>3</u>
Total	15

Spring	Credits
Institutional Graduation Requirement (300/400)	3
AST 443/443A, Food Process & Engineering Fundamentals	3
MNET 252/252A, Electricity & Electronics II	3
MNET 334/334A. CAM/CNC	3
MNET 494, Cooperative Education	<u>3</u>
Total	15

Total	64
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A total of 20 credits of 300/400 level coursework are required.

GENERAL TECHNOLOGY			
Semester	General Education (15 hrs)	Institutional Graduation Requirement (10 hrs)	Information Technology Literacy (3 hrs)
Junior Fall	ENGL 201 3		
	GenE 7		
Junior Spring	GenE 6	CHEM 106 4	
Senior Fall		GE 231 3	
Senior Spring		IGR 3	CSC 312 (included in option)
Total	16**	10	0

**1 hour of science meets the elective requirement

Bachelor of Applied Technical Science
Option: Applied Agriculture

Junior Year

Fall	Credits
Engl 201, Composition II	3
Math 102, College Algebra	3
Bio 101/102, Biology Survey I	3
Chem 106/107, Chemistry	4
PS 223, 223A, Plant Pathology or AS 285, Livestock Evaluation & Marketing	<u>3</u>
Total	16

Spring	Credits
Bio 371, Genetics	3
AS 323, Advanced Animal Nutrition or PS 307, Insect Pest Mgt.	3
AST course numbered 300 or 400	3
Econ 201, Macroeconomic Principles or Econ 202, Microeconomic Principles	3
IGR goal #2 numbered 300 or 400	3
IGR goal #3 numbered 300 or 400	<u>2</u>
Total	17

Senior Year

Fall	Credits
AS 332, Principles of Animal Breeding or PS 305/305A, General Entomology	3
Cultural Diversity Elective	3
IGR goal #5 numbered 300 or 400	3
AgEc course numbered 300 or 400	3
Courses numbered 300 or 400 with the prefix AgEc, Econ, Badm, ABS, AS, AST, DS, Ho, PS, or Rang	<u>3</u>
Total	15

Spring	Credits
AgEc 354, Agricultural Marketing & Prices	3
AST 303, Design Management Experience	3
General Elective	1
PS 323, Soil Fertiligty & Fertilizers or PS 333 Diseases of Field Crops or AS 474 Beef Cattle Production or AS 478 Swine Production	3
Courses numbered 300 or 400 with the prefix AgEc, Econ, Badm, ABS, AS, AST, DS, Ho, PS, or Rang	<u>6</u>
Total	16

Total **64**
A total of 30 credits of 300/400 level coursework are required.

Bachelors of Applied Technical Science in Applied Agriculture

Degree Requirements	Total	Cr. above 300	Applied Ag	Gen Ed	IGR	ITL
Associate of Applied Science (A.A.S.) from an approved program						
Written Communication Engl 201	3	0	0	3	0	0
Social Sciences Econ 201 or 202	3	0	0	0	3	0
goal #2 IGR numbered 300 or above	3	3	0	0	3	0
Arts and Humanities Cultural diversity elective	3	0	0	3	0	0
Goal #3 IGR numbered 300 or above	2	2	0	0	2	0
Math Math 102, college Algebra	3	0	0	3	0	0
Natural Sciences Chemistry 106/107	4	0	0	4	0	0
Bio 101/102	3	0	0	3	0	0
Information Technology Literacy AST 303 Design Management Experience	3	3	3	0	0	3
Land-Grant Philosophy Goal #5 IGR numbered 300 or above	2	2	0	0	2	0
Agriculture and Agricultural Technology PS 223, Plant Pathology or AS 285, Livestock Evaluation & Marketing	3	0	3	0	0	0
Bio 371	3	3	3	0	0	0
PS 307 or AS 323	3	3	3	0	0	0
PS 305 or AS 332	3	3	3	0	0	0
PS 323 or PS 333 or AS 474, or AS 478	3	3	3	0	0	0
AST courses numbered 300 or above	3	3	3	0	0	0
AgEc 354, Agricultural Marketing & Prices	3	3	3	0	0	0
AgEc courses numbered 300 or above	3	3	3	0	0	0
Courses numbered 300 or above with the prefix AgEc, Econ, Badm, ABS, AS, AST, DS, Ho, PS, or Rang	9	9	9	0	0	0
General elective	2	0	0	0	0	0
Total	64	40	36	16	10	3