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ARTICULATION AGREEMENT  
DURHAM COLLEGE - UNIVERSITY OF GUELPH  
IN B. Sc. - FOOD SCIENCE

November, 1992

Following numerous discussions with faculty of the University of Guelph Food Science Dept. and the Durham College Food and Drug Technology program, the following articulation (advanced standing admission) agreement has been reached and approved.

#### PURPOSE

To provide selected, high- performing graduates from the three-year Food and Drug Technology program at Durham College with a formal recognition of advanced standing at the University of Guelph for completion of a B. Sc. degree in Food Science, with minimal duplication of course work, and minimal additional expenditure of time. This will be seen as a strong advantage for students interested in this program at Durham.

To provide the University of Guelph with a stream of qualified students to enter into the Food Science program. This is also a positive move for the University as it will reinforce the student body within the Food Science program.

#### BACKGROUND

Government policy is stressing the importance of developing articulation agreements between colleges and universities which will provide, more effectively than in the past, for the facilitated transfer of college students (normally college graduates) into university programs. There has been dissatisfaction in various quarters with a number of facets of the general failure of these institutions to enable ease of transfer of qualified students, among which the amount of transfer credit gained has often been a point of concern or contention. There has also been a recognition that given the variety of curriculum requirements (and perhaps standards) among the various colleges, provision of "across-the-board" transfer credits, regardless of the college or program, has simply not been feasible.

Accordingly, there has been agreement among the executive heads of these institutions that there should be serious effort directed at establishing cross-crediting and admission arrangements on a case-by-case basis.

Durham College is recognized as having a strong program in Food and Drug Technology. The program itself involves six academic semesters. A number of students from this program have completed their degree at Guelph in the past,

and one instructor within the program at present has a degree in Food Science from the University of Guelph. A detailed examination of course outlines and program requirements for the programs in both institutions has been conducted by representatives from each institution. Hence it seems prudent at this time to formalize the articulation agreement with Durham College.

## THE AGREEMENT

### ADMISSION REQUIREMENTS

Credit will be given for a specific list of courses to students who have graduated from the Durham College Food and Drug Technology program with a minimum 3.0 grade point average (University of Guelph 70+) at Durham College when they apply to the Food Science program at the University of Guelph. Additionally, if they have not completed OAC physics and OAC calculus at the secondary school level, they require mathematics and physics upgrading as a prerequisite to calculus, 63-108, and physics, 76-111 or 76-107 or 76-100, at the University of Guelph. This upgrading could be done by completing OAC physics and OAC calculus through any Secondary School Board, or by completing Calculus I, MATH-3101, Calculus II, MATH-4101, and Physical Sciences, PHYS-1101 at Durham College prior to their application to the University of Guelph, or by completing 76-102, Introductory Physics and 63-104, Precalculus Mathematics at the University of Guelph, or by completing equivalent courses elsewhere. However, students would not receive credit for these courses toward their degree requirements. Completing these courses at the University of Guelph will also affect the recommended schedule of studies and will make it difficult to complete the required courses in five semesters.

Admission to the University of Guelph Food Science Co-op program is also possible following the successful completion (minimum 70 average) of their first semester at the University of Guelph. However, it may be difficult to complete four work terms during the five academic semesters of study required. In the recommended schedule of studies, as outlined further on, the final work term follows semester 8.

A minimum of fifteen places from the overall admission target for the Food Science major would be reserved, annually, for transfer students from college diploma programs. If no articulation agreements with colleges other than Durham College are in place, then these reserved spaces will all go to Durham College graduates. Should there be less than 15 such qualified students, the "unfilled reserved" places will revert to the general pool for applications to the Food Science major. Should there be more than 15 qualified students apply, the "reserved" places will be assigned to the highest performing Durham applicants,



and the remaining Durham graduates will compete along with all other applicants for advanced standing admission.

The Department of Food Science will track the progress of incoming students from the Durham College Food and Drug Technology program and will report back to the University on their success two to three years following the acceptance of the first students under this agreement.

#### ADVANCED STANDING CREDIT

Durham College students admitted to the University of Guelph Food Science program will receive 15 advanced standing credits as follows:

- a) 1 - 100 level unspecified biology course
- b) 2 - 200 level unspecified chemistry courses
- c) 1 - 100 level unspecified english course
- d) 1 - 200 level unspecified english course
- e) 19-100 Fundamental Chemistry I
- f) 19-101 Fundamental Chemistry II
- g) 19-179 Organic Chemistry
- h) 19-248 Analytical Chemistry
- i) 19-258 Introductory Biochemistry
- j) 27-120 Introduction to Computing
- k) 42-201 Principles of Food Science
- l) 42-323 Food Microbiology
- m) 65-100 General Microbiology
- n) 89-208 Introductory Applied Statistics

Four of these courses are not requirements in the University of Guelph Food Science program (1 - 100 level unspecified biology, 2 - 200 level unspecified chemistry courses, 19-248) but will be recognized as electives. The equivalent Durham College courses are listed in the Appendix.

#### SCHEDULE OF STUDIES

The approved curriculum for the B. Sc. major in Food Science for 93/94 is presented in the Appendix. Assuming a fall admission point, the following schedule of studies for Durham College transfer students is recommended, subject to availability and scheduling of courses. Amendments in the sequencing of the schedule is possible if students choose a winter or spring admission point, or if they choose a spring semester during their program.

**Regular Program****Semester 4 F**

15-221 Introductory Cell Biology 3-0

19-288 Physical Chemistry 3-2

63-108 Calculus I 3-1

76-111 Physics I<sup>1</sup> 3-3

One Arts or Soc. Sci. elective

**Semester 6 F**

42-310 Food Chemistry 3-3

42-316 Food Processing I 3-3

71-321 Fundamentals of Nutrition 3-0

2 Electives or Restricted Electives

**Semester 8 F**

42-412 Food Analysis 3-4

4 Electives or Restricted Electives

**Semester 5 W**

05-262 Food Engineering Principles 3-2

63-208 Calculus II 3-1

76-113 Physics II<sup>1</sup> 3-3

One Arts or Soc. Sci. elective

1 Elective or Restricted Elective<sup>2</sup>**Semester 7 W**

42-317 Food Processing II 3-3

42-470 Food Product Development 2-3

3 Electives or Restricted Electives

<sup>1</sup> 76-111/113 could be replaced by 76-100/101 or 76-107/108.<sup>2</sup> See note on electives and restricted electives in regular program found in Appendix II.**Co-op Program****Semester 4 F**

15-221 Introductory Cell Biology 3-0

19-288 Physical Chemistry 3-2

63-108 Calculus I 3-1

76-111 Physics I<sup>1</sup> 3-3

One Arts or Soc. Sci. elective

**Semester 6 F<sup>3</sup>**

42-310 Food Chemistry 3-3

42-316 Food Processing I 3-3

71-321 Fundamentals of Nutrition 3-0

2 Electives or Restricted Electives

**Semester 8 W**

42-317 Food Processing II 3-3

42-470 Food Product Development 2-3

3 Electives or Restricted Electives

**Semester 5 W**

05-262 Food Engineering Principles 3-2

63-208 Calculus II 3-1

76-113 Physics II<sup>1</sup> 3-3

One Arts or Soc. Sci. elective

1 Elective or Restricted Elective<sup>2</sup>**Semester 7 F**

42-412 Food Analysis 3-4

4 Electives or Restricted Electives

<sup>1</sup> 76-111/113 could be replaced by 76-100/101 or 76-107/108.<sup>2</sup> See note on electives and restricted electives in regular program found in Appendix II.<sup>3</sup> Co-op terms follow semesters 5, 6 (two consecutive terms), and 8.

## APPENDIX I COURSE EQUIVALENTS

### University of Guelph Course

1 - 100 level biology  
2 - 200 level chemistry courses

1 - 100 level english

1 - 200 level english

19-100 Fundamental Chemistry I

19-101 Fundamental Chemistry II

19-179 Organic Chemistry

19-248 Analytical Chemistry I

19-258 Introductory Biochemistry

27-120 Introduction to Computing

42-201 Principles of Food Science

42-323 Food Microbiology

65-100 General Microbiology

89-208 Introductory Applied Stats I  
(to be recognized as the program  
requirement rather than 89-204)

### Durham College Course

Biology BIOL-1101

Chromatography, INST-2103; and  
Adv. Analytical Meth., INST-2101; and  
Spectroscopy, INST-3102; and  
Adv. Anal. Meth., II INST-3101

Communications I, COMM-1101; and  
Communications II, COMM-2101

Communications III, COMM-3101; and  
Communications IV, COMM-4101

Chemistry I, CHEM-1101; and  
Analytical Techniques, TECH-1101

Chemistry II, CHEM-2101; and  
Introductory Instrum., INST-1102

Organic Chemistry I, ORGN-1101; and  
Organic Chemistry II, ORGN-2101

Analytical Chem. I, CHEM-3101; and  
Analytical Chem. II, CHEM-4101

Biochemistry I, BIOC-1101; and  
Biochemistry II, BIOC-2101

Computer Applications I, COMP-1101; and  
Computer Applications II, COMP-2101

Food Science and Nutrition, NUTR-1101; and  
Processing Operations I, PROC-1101; and  
Processing Operations II, PROC-2101

Microbiology III, MICR-3101; and  
Microbiology IV, MICR-4101

Microbiology I, MICR-1101; and  
Microbiology II, MICR-2101

Statistics I, STAT-1101; and  
Statistical Qual. Contr., STAT-3101



## APPENDIX II

## Food Science Curriculum, approved for 1993/94

**Semester 1 F**

19-100 Fundamental Chemistry I 3-3

27-120 Intro. to Computing<sup>1</sup> 3-2

OR

65-100 General Microbiology 3-3

63-108 Calculus I 3-1

76-111 Physics I<sup>2</sup> 3-3

One Arts or Soc. Sci. elective

**Semester 3 F**15-221 Introductory Cell Biology<sup>3</sup> 3-0

19-179 Organic Chemistry 3-3

19-288 Physical Chemistry 3-2

42-201 Principles of Food Science 3-0

1 Elective

**Semester 5 F**

42-310 Food Chemistry 3-3

42-316 Food Processing I 3-3

71-321 Fundamentals of Nutrition 3-0

2 Electives

**Semester 7 F**

42-412 Food Analysis 3-4

4 Electives

**Semester 2 W**

19-101 Fundamental Chemistry II 3-3

27-120 Intro. to Computing<sup>1</sup> 3-2

OR

65-100 General Microbiology 3-3

63-208 Calculus II 3-1

76-113 Physics II<sup>2</sup> 3-3

One Arts or Soc. Sci. elective

**Semester 4 W**

05-262 Food Engineering Principles 3-2

19-258 Intro. Biochemistry 3-3

89-204 Statistics I 3-2

2 Electives

**Semester 6 W**

42-317 Food Processing II 3-3

42-323 Food Microbiology 3-3

3 Electives

**Semester 8 W**

42-470 Food Product Development 2-3

4 Electives

<sup>1</sup> 27-120 could be replaced by 26-202 Information Management (2-2) in semesters 3 or 4.

<sup>2</sup> 76-111/113 could be replaced by 76-100/101 or 76-107/108 in semesters 1 and 2.

<sup>3</sup> 15-221 could also be taken in semester 4.

Of the 18 electives:

At least 4 must be Arts or Social Sciences

At least 2 must be from list of Communications courses

At least 2 must be from list of Advanced Food Science courses

At least 2 must be from list of Commodity courses

At least 3 must be at the 400 level

At least 10 must be science courses or have the approval of the department counsellor.

**Communications Restricted Electives:**

\*37-120 Literature and the Modern World (5 or 6) S,F,W

38-304 Communication Process (5 or 6) W

42-404 Seminar in Food Research (7 or 8) F,W

42-406 Food Research Problems (7 or 8) F,W

\*Cannot be double-counted as Arts electives.

**Advanced Food Sci. Restricted Electives:**

26-301 Quality Assurance W3-0  
 42-311 Advanced Food Chemistry W3-3  
 42-370 Sensory Evaluation W2-3  
 42-407 Food Packaging F3-0  
 42-421 Epidemiology of Food-borne Diseases W3-0  
 42-435 Processing Plant Technology F3-2

**Commodity Restricted Electives:**

42-321 Cultured Milk and Fermented Foods W2-3  
 42-333 Beverage Technology W3-0  
 42-411 Meat and Poultry Processing W2-3  
 42-434 Cheese and Butter Technology W3-3  
 42-440 Dairy Processing W3-3  
 42-452 Cereal Technology W2-3

**Food Science (Co-op) Curriculum, approved for 1993/94****Semester 1 F**

19-100 Fundamental Chemistry I 3-3  
 27-120 Intro. to Computing<sup>1</sup> 3-2  
 OR

65-100 General Microbiology 3-3

63-108 Calculus I 3-1

76-111 Physics I<sup>2</sup> 3-3

One Arts or Soc. Sci. elective

**Semester 3 F**

19-179 Organic Chemistry 3-3

19-288 Physical Chemistry 3-2

42-201 Principles of Food Science 3-0

2 Electives<sup>3</sup>

**Semester 5 W**

05-262 Food Engineering Principles 3-2

42-323 Food Microbiology 3-3

71-321 Fundamentals of Nutrition 3-0

2 Electives

**Semester 7 W**

42-317 Food Processing II 3-3

4 Electives

**Semester 2 W**

19-101 Fundamental Chemistry II 3-3

27-120 Intro. to Computing<sup>1</sup> 3-2

OR

65-100 General Microbiology 3-3

63-208 Calculus II 3-1

76-113 Physics II<sup>2</sup> 3-3

One Arts or Soc. Sci. elective

**Semester 4 S<sup>4</sup>**

15-221 Introductory Cell Biology 3-0

19-258 Intro. Biochemistry 3-3

89-204 Statistics I 3-2

2 Electives

**Semester 6 F**

42-310 Food Chemistry 3-3

42-316 Food Processing I 3-3

42-412 Food Analysis 3-4

2 Electives

**Semester 8 W**

42-470 Food Product Development 2-3

4 Electives

<sup>1</sup> 27-120 could be replaced by 26-202 Information Management (2-2) in semester 4 to provide another spring offering.

<sup>2</sup> 76-111/113 could be replaced by 76-100/101 or 76-107/108 in semesters 1 and 2.

<sup>3</sup> See note on electives and restricted electives in regular program.

<sup>4</sup> Co-op terms follow semesters 3, 4, 5, (single terms each) and 7 (double term).