I. Roll Call
   () Arlene Schmuland   () Hsing-Wen Hu   () Sam Thiru
   () Susan Garton      () Peter Olsson  () COH Vacancy
   () Greg Protasel     () Anthony Paris () GSA Vacancy
   () Dennis Drinka     () Patricia Sandberg () FSAL vacancy
   () Jervette Ward     () Clayton Trotter

   Ex-Officio Members:
   ()  Greg Protasel  () Anthony Paris  () GSA Vacancy  () David Yesner
   ()  Dennis Drinka  () Patricia Sandberg () Graduate Council  () Lora Volden
   ()  Jervette Ward  () Clayton Trotter
   ()  COH Vacancy   () Ex-Officio Members:
   ()  Anthony Paris  () GSA Vacancy

II. Approval of Agenda (pg. 1)

III. Approval of Meeting Summary (pg. 2-3)

IV. Program/Course Action Request – Third Reading
   Add CHEM A611 Advanced Biophysical Chemistry (Stacked with CHEM A411)
   (3 cr)(3+0)(pg. 4-13)

V. Program/Course Action Request - First Readings
   Add CHEM A699 Graduate Thesis (1-6 cr)(0+3-18)(pg. 14-17)

VI. Administrative Reports
   A. Associate Dean of the Graduate School David Yesner
   B. Graduate Student
   C. University Registrar Lora Volden

VII. Chair’s Report
   A. GAB Chair- Arlene Schmuland
   B. Faculty Alliance
   C. Graduate Council

VIII. Old Business

IX. New Business

X. Informational Items and Adjournment
I. **Roll Call**
(x) Arlene Schmuland  
(e) Susan Garton  
(x) Greg Protasel  
(x) Dennis Drinka  
(x) Jervette Ward  
(x) Hsing-Wen Hu  
(x) Peter Olsson  
(x) Patricia Sandberg  
() Clayton Trotter  
(x) Sam Thiru  
() COH Vacancy  
() GSA Vacancy  
() FSAL vacancy  
(x) David Yesner  
(x) Lora Volden  
() Scheduling & Publications  
Ex-Officio Members:
(x)  Greg Protasel  
() Anthony Paris  
() GSA Vacancy  
(x) David Yesner  
(x)  Dennis Drinka  
(x)  Jervette Ward  
(x)  Patricia Sandberg  
(x)  Lora Volden

II. **Approval of Agenda** (pg. 1)
Approved

III. **Approval of Meeting Summary** (pg. 2-3)
Approved

IV. **Program/Course Action Request – Second Reading**

Add CHEM A611 Advanced Biophysical Chemistry (Stacked with CHEM A411) 
3 cr (3+0)(pg. 4-13)

Accepted for second reading

Chg CHEM A650 Advanced Environmental Chemistry (Stacked with CHEM A450) 
3 cr (3+0)(pg. 14-24)

Add CHEM A677 Advanced Bioanalytical Chemistry (Stacked with CHEM A477) 
3 cr (3+6)(pg. 25-35)

Add CHEM A680 Advanced Nuclear Magnetic Resonance (Stacked with CHEM A480) 
3 cr (3+0)(pg. 36-44)

Add CHEM A690 Advanced Lecture Topics in Chemistry (Stacked with CHEM A490) 
3 cr (1-3+0)(pg. 45-54)

Motion: approve CHEM A611, A650, A677, A680 A690 for second reading.

Amendment: approve CHEM A650, A677, A689, A690 for second reading.
1 opposed
8 in favor
Amendment approved

Motion with amendment: approve CHEM A650, A677, A689, A690 for second reading. 
Unanimously Approved

Chg CHEM A698 Graduate Research (1-6 cr)(0+3+18)(pg. 55-58)

Motion to approve CHEM A698 for second reading.
2 opposed
7 in favor
Approved

V. **Program/Course Action Request - First Readings**

Add EDCN A643 Grief Trauma Counseling with Families (3 cr)(3+0)(pg. 59-65)

Waive first reading and approve for second

Add EDCN A695F Counseling Internship: Marriage/Family (3-6 cr)(1+15-30)(pg. 66-71)

Waive first reading and approve for second

VI. **Administrative Reports**

A. Associate Dean of the Graduate School David Yesner

Site visitors met with faculty, staff and students from Psychology; gave positive remarks and identified areas of improvement during their exit interview

B. Graduate Student
C. University Registrar Lora Volden
   *Spring courses are viewable on UAOnline starting Monday, October 28th*

VII. Chair’s Report
   A. GAB Chair- Arlene Schmuland
   B. Faculty Alliance
   C. Graduate Council

VIII. Old Business

IX. New Business
   A. Curriculum Handbook text regarding stacked courses (pg. 72-74)
      *Recommended requesting information from the Hanover Group regarding stacked courses and the policies and procedures of comparable universities*
      *Formed a joint UAB/GAB sub-committee to review policies and procedures regarding stacked courses*
      *GAB volunteers include: Peter Olsson, Pat Sandberg, Dennis Drinka and David Yesner (ex-officio)*
   B. Credit Hour Audit
      *NWCCU has two requirements for accreditation: 1) definition of credit hours and 2) a process in place that ensures course paperwork aligns with the credit hours*
      *Requested volunteers for a joint UAB/GAB sub-committee*

X. Informational Items and Adjournment
Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

1a. School or College
   AS CAS

1b. Division
   AMSC Division of Math Science

1c. Department
   Chemistry

2. Course Prefix
   CHEM

3. Course Number
   A611

4. Previous Course Prefix & Number

5a. Credits/CEUs
   3

5b. Contact Hours
   (Lecture + Lab)
   (3+0)

6. Complete Course Title
   Advanced Biophysical Chemistry
   Adv Biophysical Chemistry
   Abbreviated Title for Transcript (30 character)

7. Type of Course
   [ ] Academic [ ] Preparatory/Development [ ] Non-credit [ ] CEU [ ] Professional Development

8. Type of Action: [ ] Add [ ] Change [ ] Delete
   If a change, mark appropriate boxes:
   [ ] Prefix [ ] Course Number [ ] Contact Hours [ ] Repeat Status
   [ ] Title [ ] Grading Basis [ ] Cross-Listed/Stacked
   [ ] Course Description [ ] Test Score Prerequisites [ ] Co-requisites
   [ ] Other Restrictions [ ] Graduation Requirements
   [ ] Class [ ] Level [ ] College [ ] Major
   [ ] Other (please specify)

9. Repeat Status No # of Repeats 0 Max Credits

10. Grading Basis
    [ ] A-F [ ] P/NP [ ] NG

11. Implementation Date
    From: Summer/2014 To: 9999

12. [ ] Cross Listed with
    [ ] Stacked with CHEM A411

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.
    Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.
    Initiator Name (typed): Holmberg
    Initiator Signed Initials: _________ Date: ___________
    1. Interdisciplinary Masters Program 8/28/2013
    2. 
    3. 

14. General Education Requirement
    Mark appropriate box:
    [ ] Oral Communication [ ] Written Communication [ ] Quantitative Skills [ ] Humanities
    [ ] Fine Arts [ ] Social Sciences [ ] Natural Sciences [ ] Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
   Advanced study of biophysical chemistry through the principles of thermodynamics, kinetic concepts and spectroscopic analysis. Introduction to computational techniques in physical chemistry. Examination of the current literature in biophysical chemistry. Special note: not available for students who have taken CHEM A411.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Other Restriction(s)
   [ ] College [ ] Major [ ] Class [ ] Level

16d. Registration Restriction(s) (non-codable)
   Instructor permission and graduate standing.

17. [ ] Mark if course has fees

18. [ ] Mark if course is a selected topic course

19. Justification for Action
   Addition of graduate level course stacked with CHEM A411 for inclusion in the Interdisciplinary Masters Program.

Initiator (faculty only) Date
Holmberg
Initiator (TYPE NAME)

[ ] Approved [ ] Disapproved
Dean/Director of School/College Date

[ ] Approved [ ] Disapproved
Undergraduate/Graduate Academic Board Chair Date

[ ] Approved [ ] Disapproved
Provost or Designee Date
Course Content Guide for **CHEM A611**
University of Alaska Anchorage
College of Arts and Sciences

I. **Date of Initiation:** February 22, 2013

II. **Course information**

   A. **College:** College of Arts and Sciences
   
   B. **Course Subject:** CHEM
   
   C. **Course Number:** A611
   
   D. **Number of Credits:** 3
   
   E. **Contact Hours:** 3+0
   
   F. **Course Title:** Advanced Biophysical Chemistry
   
   G. **Grading Basis:** A – F
   
   H. **Implementation Date:** Summer 2014
   
   I. **Course Description:** Advanced study of biophysical chemistry through the principles of thermodynamics, kinetic concepts and spectroscopic analysis. Introduction to computational techniques in physical chemistry. Examination of the current literature in biophysical chemistry. Special note: not available for students who have taken CHEM A411.
   
   J. **Course Attributes:** N/A
   
   K. **Prerequisites:** N/A
   
   L. **Test Scores:** N/A
   
   M. **Corequisites:** N/A
   
   N. **Registration Restrictions:** Instructor permission and graduate standing.
   
   O. **Course Fee:** No
III. **Instructional Goals and Student Learning Outcomes**

A. **Instructional Goals:**

The instructor will:

1. Present advanced principles of thermodynamics with applications to biochemical systems.
2. Detail advanced concepts in molecular kinetic theory with applications to transport properties of macromolecules.
3. Present chemical kinetics with heavy accent on enzymatic catalysis and biological system modeling.
4. Utilize spectroscopic techniques for bio-molecular characterization as well as modern computational techniques.
5. Derive pertinent expressions from basic principles using theoretical modeling techniques.

B. **Student Learning Outcomes:**

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate critical thinking skills for explanation and prediction of biophysical/bio-chemical phenomena using thermodynamics and chemical kinetics.</td>
<td>Quizzes, Exams, Class Activities</td>
</tr>
<tr>
<td>Integrate mathematical skills such as calculus, differential equations, and linear algebra and chemical concepts with applications in physical chemistry. Demonstrate proficiency in derivation of advanced concepts from fundamental principles.</td>
<td>Quizzes, Exams, Class Activities</td>
</tr>
<tr>
<td>Apply a range of spectroscopic and computational techniques for bio-molecular characterization and research their possible applications to complex biochemical problems.</td>
<td>Quizzes, Exams, Research Paper</td>
</tr>
<tr>
<td>Apply the knowledge of kinetics to design methods for determination of reactions’ mechanisms.</td>
<td>Quizzes, Exams</td>
</tr>
</tbody>
</table>
IV. Course Activities

A. Lecture
B. Assignments
C. Critical Thinking Questions
D. Quizzes
E. Exams
F. Research Paper

V. Guidelines for Evaluation

The students will be evaluated based on their performance on quizzes, in-class exams, research papers and comprehensive final. The grades A – F will be assigned based on a curve that is deemed reasonable by the instructor.

VI. Course Level Justification

This course requires a background in the principles of chemistry, advanced calculus and mathematical techniques such as differential equations and linear algebra, and concepts in physics. It also requires analytical thinking, critical analysis, and attention to detail. Students will be required to assimilate a number of concepts while clearly describing complex biological phenomena.

VII. Course Outline

A. Principles of Thermodynamics: laws of thermodynamics, application to biochemical systems. Applications topics discussed can include thermodynamic basis of protein stability, ligand binding equilibria, Scatchard’s and Hill’s models, differential scanning calorimetry, transport across membranes, phase transition in lipid bilayers, equilibria in double stranded helices of complementary oligonucleotides.
B. Molecular Kinetic Theory and Transport Properties, applications to Fick’s Laws, viscosity and sedimentation as applied to bio-molecular measurements.
C. Chemical Kinetics as applied to enzymatic catalysis.
D. Introduction to spectroscopy and computational techniques as applied to characterization of secondary and tertiary structure of proteins, as well as structural characterization of RNA/DNA molecules.

VIII. Suggested Texts


IX. Bibliography

Methods of Enzymology

Biophysical Journal

Journal of Physical Chemistry

Biochemistry

Cell

Journal of Biological Chemistry

Molecular Cell

Nature

Nature Structure

Science
## Proposal to Initiate, Add, Change, or Delete a Course

### 1. School or College
- **AS CAS**

### 2. Course Prefix
- **CHEM**

### 3. Course Number
- **A411**

### 4. Previous Course Prefix & Number
- **A311**

### 5. Credits/CEUs
- **3**

### 6. Complete Course Title
- **Biophysical Chemistry**

### 7. Type of Course
- **Academic**

### 8. Type of Action:
- **Add**

### 9. Repeat Status No
- **# of Repeats**
- **Max Credits**

### 10. Grading Basis
- **A-F**
- **P/NP**
- **NG**

### 11. Implementation Date
- **From:** Summer/2014
- **To:** /9999

### 12. Cross Listed with
- **CHEM A611**

### 13a. Impacted Courses or Programs
- **List any programs or college requirements that require this course.**

### 14. General Education Requirement
- **Mark appropriate boxes:**
  - Oral Communication
  - Written Communication
  - Quantitative Skills
  - Social Sciences
  - Natural Sciences
  - Integrative Capstone

### 15. Course Description
- **Suggested length 20 to 50 words**

### 16a. Course Prerequisite(s)
- (list prefix and number or test code and score)
  - CHEM A106, MATH A201, and PHYS A124 with minimum grade of C.

### 16b. Co-requisite(s)
- (concurrent enrollment required)
- **n/a**

### 16c. Other Restriction(s)
- **Mark if course is a selected topic course**

### 17. Mark if course has fees
- **n/a**

### 18. Justification for Action
- **Updating course level to appropriate numbering considering course depth and breadth and title as a required course for Chemistry/Biochemistry option and CHEM minor and as an elective class for science majors due to student demand.**

### Initiator Name (typed): Holmberg

### Initiator Signed Initials: _________

### Date: ___________

### 13b. Coordination Email
- **Date:** 10/3/2013
- **submitted to Faculty Listserv:** (uaa-faculty@lists.uaa.alaska.edu)

### 14. General Education Requirement
- **Mark appropriate box:**
  - Oral Communication
  - Written Communication
  - Quantitative Skills
  - Social Sciences
  - Natural Sciences
  - Integrative Capstone

### 15. Course Description
- **Study of principles of thermodynamics, chemical kinetics, molecular kinetic theory, and spectroscopy as applied to biochemical systems. Applications to solutions, phase equilibria, biochemical reactions, transport properties, and spectroscopic techniques for biomolecular characterization. Introduction to computational techniques in physical chemistry.**

### 16a. Course Prerequisite(s)
- (list prefix and number or test code and score)
  - CHEM A106, MATH A201, and PHYS A124 with minimum grade of C.

### 16b. Co-requisite(s)
- (concurrent enrollment required)
- **n/a**

### 16c. Other Restriction(s)
- **Mark if course is a selected topic course**

### 17. Mark if course has fees
- **n/a**

### 18. Justification for Action
- **Updating course level to appropriate numbering considering course depth and breadth and title as a required course for Chemistry/Biochemistry option and CHEM minor and as an elective class for science majors due to student demand.**

### Initiator Signed Initials: _________

### Date: ___________

### 19. Justification for Action
- **Updating course level to appropriate numbering considering course depth and breadth and title as a required course for Chemistry/Biochemistry option and CHEM minor and as an elective class for science majors due to student demand.**

### Initiator (faculty only)
- **Holmberg**

### Initiator (TYPE NAME)
- **Date**

### Approved
- **Disapproved**

### Dean/Director of School/College
- **Date**

### Undergraduate/Graduate Academic
- **Date**

### Provost or Designee
- **Date**
Course Content Guide for CHEM A411
University of Alaska Anchorage
College of Arts and Sciences

I. Date of Initiation: February 22, 2013

II. Course information:

A. College: College of Arts and Sciences

B. Course Subject: CHEM

C. Course Number: A411

D. Number of Credits: 3

E. Contact Hours: 3+0

F. Course Title: Biophysical Chemistry

G. Grading Basis: A – F

H. Implementation Date: Summer 2014

I. Course Description: Study of principles of thermodynamics, chemical kinetics, molecular kinetic theory and spectroscopy as applied to biochemical systems. Applications to solutions, phase equilibria, biochemical reactions, transport properties, and spectroscopic techniques for biomolecular characterization. Introduction to computational techniques in physical chemistry.

J. Course Attributes: N/A

K. Prerequisites: (CHEM A106, MATH A201, and PHYS A124) with minimum grade of C.

L. Test Scores: N/A

M. Corequisites: N/A

N. Registration Restrictions: N/A
III. Instructional Goals and Student Learning Outcomes

A. Instructional Goals:

Instructor will:

1. Present principles of thermodynamics with applications to bio-chemical systems.
2. Introduce molecular kinetic theory with applications to transport properties of macromolecules.
3. Introduce chemical kinetics with heavy accent on enzymatic catalysis.
4. Demonstrate spectroscopic techniques for bio-molecular characterization as well as modern computational techniques.

B. Student Learning Outcomes:

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate critical thinking skills for explanation and prediction of bio-physical/bio-chemical phenomena using thermodynamics and chemical kinetics.</td>
<td>Quizzes, Exams, Assignments, Critical Thinking Questions</td>
</tr>
<tr>
<td>Integrate mathematical skills and concepts learned in MATH 200-201 classes with applications in physical chemistry.</td>
<td>Quizzes, Exams, Assignments, Critical Thinking Questions</td>
</tr>
<tr>
<td>Demonstrate knowledge of spectroscopic and computational techniques for bio-molecular characterization.</td>
<td>Quizzes, Exams</td>
</tr>
<tr>
<td>Apply the knowledge of kinetics to design methods for determination of reactions’ mechanisms.</td>
<td>Quizzes, Exams</td>
</tr>
</tbody>
</table>

IV. Course Activities

A. Lecture
B. Assignments
V. **Guidelines for Evaluation**

The students will be evaluated based on their performance on quizzes, in-class exams and comprehensive final.

VI. **Course Level Justification**

This course requires a background in the principles of chemistry, calculus and basic concepts in physics. It also requires a great deal of analytical thinking, critical analysis, and medium to advanced level mathematics.

VII. **Course Outline**

A. Principles of Thermodynamics: laws of thermodynamics, application to biochemical systems. Application topics discussed can include thermodynamic basis of protein stability, ligand binding equilibria, Scatchard’s and Hill’s models, differential scanning calorimetry, transport across membranes, phase transition in lipid bilayers, equilibria in double stranded helices of complementary oligonucleotides.

B. Molecular Kinetic Theory and Transport Properties, applications to Fick’s Laws, viscosity and sedimentation as applied to bio-molecular measurements.

C. Chemical Kinetics as applied to enzymatic catalysis.

D. Introduction to spectroscopy and computational techniques as applied to characterization of secondary and tertiary structure of proteins, as well as structural characterization of RNA/DNA molecules.

VIII. **Suggested Texts**


IX. Bibliography

Scientific Journals such as (not a comprehensive list):
   Biological Chemistry
   Biochemistry
   Biophysical Journal
   Cell
   Journal of Biological Chemistry
   Journal of Molecular Biology
   Molecular Biology
   Molecular Cell
   Nature
   Nature Structure
   Science
### Course Action Request

**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>AS CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b. Division</td>
<td>AMSC Division of Math Science</td>
</tr>
<tr>
<td>1c. Department</td>
<td>Chemistry</td>
</tr>
<tr>
<td>2. Course Prefix</td>
<td>CHEM</td>
</tr>
<tr>
<td>3. Course Number</td>
<td>A699</td>
</tr>
<tr>
<td>4. Previous Course Prefix &amp; Number</td>
<td></td>
</tr>
<tr>
<td>5a. Credits/CEUs</td>
<td>1-6</td>
</tr>
<tr>
<td>5b. Contact Hours</td>
<td>(Lecture + Lab) (0+3-18)</td>
</tr>
</tbody>
</table>

#### Complete Course Title

**Graduate Thesis**

**Abbreviated Title for Transcript (30 character)**

#### Type of Course

- [x] Academic  
- [ ] Preparatory/Development  
- [ ] Non-credit  
- [ ] CEU  
- [ ] Professional Development

#### Type of Action:

- [x] Add  
- [ ] Change  
- [ ] Delete

If a change, mark appropriate boxes:

- [ ] Prefix  
- [ ] Credits  
- [ ] Title  
- [ ] Grading Basis  
- [ ] Course Description  
- [ ] Test Score Prerequisites  
- [ ] Other Restrictions  
- [ ] Level  
- [ ] College  
- [ ] Major  
- [ ] Other (please specify)

#### Repeat Status

- [ ] Yes  
- [ ] No

# of Repeats:  
Max Credits: 12

#### Grading Basis

- [x] A-F  
- [ ] P/NP  
- [ ] NG

#### Implementation Date

- Semester/year:  
  - From: Spring/2014  
  - To: 99/9999

#### Cross Listed with

- [ ] Stacked with

Cross-Listed Coordination Signature

#### General Education Requirements

- [ ] Oral Communication  
- [ ] Written Communication  
- [ ] Quantitative Skills  
- [ ] Humanities  
- [ ] Fine Arts  
- [ ] Social Sciences  
- [ ] Natural Sciences  
- [ ] Integrative Capstone

#### Course Description

*(suggested length 20 to 50 words)*

Description: development, preparation, and completion of thesis for discipline-specific research at a graduate level. May be repeated for a maximum of 6 credits.

#### Course Prerequisite(s) (list prefix and number or test code and score)

#### Co-requisite(s) (concurrent enrollment required)

#### Other Restriction(s)

- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

#### Mark if course has fees

#### Mark if course is a selected topic course

#### Justification for Action

Curriculum addition for the Interdisciplinary Masters degree program.

Initiator (faculty only)  
Vugmeyster  
Initiator Signed Initials:  
Date:

Initiator (TYPE NAME)

- [ ] Approved  
- [ ] Disapproved

Dean/Director of School/College  
Date:

Undergraduate/Graduate Academic  
Date:

Board Chair  
Date:

Provost or Designee  
Date:
Course Content Guide for **CHEM A699**
University of Alaska Anchorage
College of Arts and Sciences

I. **Date of Initiation:** August 28th, 2013

II. **Course Information:**

A. **College:** College of Arts and Sciences

B. **Course Subject:** CHEM

C. **Course Number:** A699

D. **Number of Credits:** 1-6

E. **Contact Hours:** 0 + 3-18

F. **Course Title:** Graduate Thesis

G. **Grading Basis:** Pass/No Pass

H. **Implementation Date:** Spring 2014

I. **Course Description:** Description: development, preparation, and completion of thesis for discipline-specific research at the graduate level. May be repeated for a maximum of 6 credits.

A. **Course Attributes:** N/A

B. **Prerequisites:** N/A

C. **Test Scores:** N/A

D. **Corequisites:** N/A

E. **Registration Restriction:** Graduate standing.

F. **Course Fees:** No

G. **Stacked With:** N/A

III. **Instructional Goals and Defined Outcomes**
A. **Instructional Goals:**

The instructor will mentor the development and formulation of a thesis. The instructor will assist with critical evaluation of relevant discipline-specific literature as it relates to the student’s thesis, as well as with integration of the results within this literature.

B. **Student Learning Outcomes:**

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct a thorough literature review in the discipline-specific area</td>
<td>Meetings, Scheduled reports</td>
</tr>
<tr>
<td>Become proficient in searching scientific resources, whether online or in print</td>
<td>Meetings</td>
</tr>
<tr>
<td>Learn how to put his/her results in the context of the literature</td>
<td>Meetings, Scheduled reports, Research paper</td>
</tr>
<tr>
<td>Write an integrated thesis paper</td>
<td>Meetings, Scheduled reports, Research paper</td>
</tr>
</tbody>
</table>

IV. **Course Activities**

A. Critical review of the literature  
B. One-on-one discussions with a faculty advisor  
C. Thesis writing

V. **Guidelines for Evaluation**

Course grading is Pass/No Pass. Assessment is made through regularly scheduled one-on-one meetings with the student and the faculty mentor to address the continuity and degree of progress. The final assessment is based on the quality of the thesis paper.

VI. **Course Level Justification**
Designed as a required course for the interdisciplinary M.S. degree program. This is an advanced research course in the context of critical review of discipline-specific literature, and the formulation and writing of a graduate thesis.

VII. **Course Outline**

A. Critical analysis of results  
B. Thorough literature review of discipline-specific publications  
C. Formulation of a thesis  
D. Writing a thesis

VIII. **Suggested Text**


Additional texts will vary depending on the discipline and the research topic.

IX. **Bibliography**

Will vary according to the research topic.