

Mathematics for Business, B.S.

math.charlotte.edu

Degree Requirements

A Major in Mathematics for Business for the B.S. degree consists of a minimum of 48 hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses, one programming course in Computer Science (ITSC), and 18 hours of Business related coursework.

General Education Courses (18-26 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Foreign Language (0-8 credit hours)

Students are required to demonstrate proficiency in the language of their choice through the 1202 level. For details on demonstrating proficiency refer to the College of Science Foreign Language Requirement in the Undergraduate Catalog.

Core Courses (40 credit hours)

ITSC 1212: Introduction to Computer Science

MATH 1241: Calculus I

MATH 1242: Calculus II

MATH 2164: Matrices and Linear Algebra

MATH 2171: Differential Equations

MATH 2241: Calculus III

MATH 2688: Math Awareness Seminar

MATH 3227: Mathematical Theory of Interest and Applications

MATH 4051: Computer Exploration and Generation of Data

STAT 3110: Applied Regression

STAT 3122: Probability and Statistics I

STAT 3123: Probability and Statistics II

OPRS 3111: Operations Research:
Deterministic Models

OPRS 3113: Operations Research:
Probabilistic Models



Concentration Courses (12 credit hours)

Students majoring in Mathematics for Business must *select one* of the following concentrations:

Concentration in Economics/Finance

Required Courses:

MATH 4122: Probability and Stochastic Models

MATH 4128: Risk Theory

STAT 3150: Time Series Analysis

Elective Course:

Select 3 credits from MATH, STAT, or OPRS at the 3000-level or above.

Concentration in Actuarial Science

Required Courses:

MATH 3228: Financial Mathematics and General Cash Flows

MATH 4228: Life Insurance Mathematics

STAT 3150: Time Series Analysis

Elective Course:

Select 3 credits from MATH, STAT, or OPRS at the 3000-level or above.

Restricted Business Courses (18 credit hours)

ACCT 2121: Principles of Accounting I

ACCT 2122: Principles of Accounting II

ECON 2101: Principles of Economics - Macro

ECON 2102: Principles of Economics - Micro

FINN 3120: Financial Management

INFO 2130: Introduction to Business Computing

Unrestricted Elective Courses

As needed to complete the credit hours required for graduation.

Other Important Requirements:

Minimum 120 credit hours (all courses)

Minimum overall GPA of 2.0 (all courses)

Minimum major GPA of 2.0 (degree courses)



B.S. in Mathematics for Business

Name: _____ Minor: _____

From AY 2024-2025

Core Courses	Semester/Year	Grade
ITSC 1212+L- Introduction to Computer ScienceI		
MATH 1241- Calculus I		
MATH 1242- Calculus II		
MATH 2164- Matrices and Linear Algebra		
MATH 2171- Differential Equations		
MATH 2241- Calculus III		
MATH 2688- Mathematics Awareness Seminar		
MATH 3227- Math Theory of Interest and Apps ($\frac{1}{2}$)		
MATH 4051- Computer Exploration & Generation of Data		
STAT 3110- Applied Regression		
STAT 3122- Probability and Statistics I		
STAT 3123- Probability and Statistics II		
OPRS 3111- Operations Research: Deterministic Models		
OPRS 3113- Operations Research: Probabilistic Models		

Chose one Concentration for Upper-Level Math Courses:

Economics/Finance		Actuarial Science	
Course	Grade	Course	Grade
MATH 4122		MATH 3228 ($\frac{1}{2}$)	
MATH 4128		MATH 4228	
STAT 3150		STAT 3150	
Elective*		Elective*	

($\frac{1}{2}$) indicates half terms, and are expected to be taken one after the other in one semester.

* Elective from any MATH, STAT, or OPRS at the 3000-level or above.

Restricted Business Courses	Semester/Year	Grade
ACCT 2121- Principles of Accounting I		
ACCT 2122- Principles of Accounting II		
ECON 2101- Principles of Economics- Macro		
ECON 2102- Principles of Economics- Micro		
FINN 3120- Financial Management		
INFO 2130- Introduction to Business Computing		

Check DegreeWorks for General Education and College's Foreign Language Requirements. A minimum of 120 credits are required for graduation.

Academic Plan of Study

B.S. in Mathematics for Business, Concentration in Economics and Finance

Name:

ID:

Freshman Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 1241	Calculus I		MATH 1242	Calculus II	
WRDS 1103/1104	Writing and Inquiry in Academic Contexts		ITSC 1212	Introduction to Computer Science	
XXXX	Theme Course		XXXX	Theme Course	
XXXX	Natural Science		XXXX	Natural Science with Lab	
FORL 1101/1201	Foreign Language or elective		FORL 1101/1201	Foreign Language or elective	

Sophomore Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 2241	Calculus III		MATH 2171	Differential Equations	
MATH 2164	Matrices and Linear Algebra		STAT 3122	Probability and Statistics I	
MATH 2688	Math Awareness Seminar		XXXX	Theme Course	
XXXX	Theme Course		ACCT 2122	Accounting II	
CTCM 2530	Critical Thinking and Communication		ECON 2101	Principles of Economics- Macro	
ACCT 2121	Accounting I				

Junior Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
STAT 3110	Applied Regression		STAT 3150	Applied Regression	
STAT 3123	Probability and Statistics II		MATH 4122/4128	Probability and Stoch models/Risk Theory	
OPRS 3111	Operations Research: Deterministic		OPRS 3113	Operations Research: Probabilistic	
ECON 2102	Principles of Economics- Micro		INFO 2130	Introduction to Business Computing	
XXXX	Elective or as needed		XXXX	Elective or as needed	

Senior Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 3227	Math Theory of Interest and Apps		MATH 4122/4128	Probability and Stoch models/Risk Theory	
MATH 3 or 4xxx	Upper-level Math elective		MATH 4051	Computer Exploration and Gen. of Data	
FINN 3120	Financial Management		XXXX	Elective or as needed	
XXXX	Technical Elective		XXXX	Elective or as needed	
XXXX	Elective or as needed				

Color Legend

Business courses

Concentration

General Education

MATH 3 or 4xxx Upper-level Math elective

Select any 3xxx or 4xxx MATH or STAT course

OPRS 3111 is offered in Fall every year

OPRS 3113 and STAT 3150 are offered in Spring every year

MATH 4122 is offered Spring even years

MATH 4128 is offered in Spring odd years

W

T

Academic Plan of Study

B.S. in Mathematics for Business, Concentration in Actuarial Science

Name:

ID:

Freshman Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 1241	Calculus I		MATH 1242	Calculus II	
WRDS 1103/1104	Writing and Inquiry in Academic Contexts		ITSC 1212	Introduction to Computer Science	
XXXX	Theme Course		XXXX	Theme Course	
XXXX	Natural Science		XXXX	Natural Science with Lab	
FORL 1101/1201	Foreign Language or elective		FORL 1101/1201	Foreign Language or elective	

Sophomore Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 2241	Calculus III		MATH 2164	Matrices and Linear Algebra	
MATH 3227	Math Theory of Interest and Apps		MATH 2171	Differential Equations	
MATH 3228	Upper-level Math elective		STAT 3122	Probability and Statistics I	
MATH 2688	Math Awareness Seminar		XXXX	Theme Course	
XXXX	Theme Course		ACCT 2122	Accounting II	
ACCT 2121	Accounting I				

Junior Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
STAT 3110	Applied Regression		STAT 3150	Applied Regression	
STAT 3123	Probability and Statistics II		MATH 4051	Computer Exploration and Gen. of Data	
OPRS 3111	Operations Research: Deterministic		OPRS 3113	Operations Research: Probabilistic	
CTCM 2530	Critical Thinking and Communication		INFO 2130	Introduction to Business Computing	
ECON 2101	Principles of Economics- Macro		ECON 2102	Principles of Economics- Micro	

Senior Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 4228	Life Insurance Mathematics		MATH 3 or 4xxx	Upper-level Math elective	
FINN 3120	Financial Management		XXXX	Elective or as needed	
XXXX	Elective or as needed		XXXX	Elective or as needed	
XXXX	Elective or as needed		XXXX	Elective or as needed	

Color Legend

Business courses

Concentration

General Education

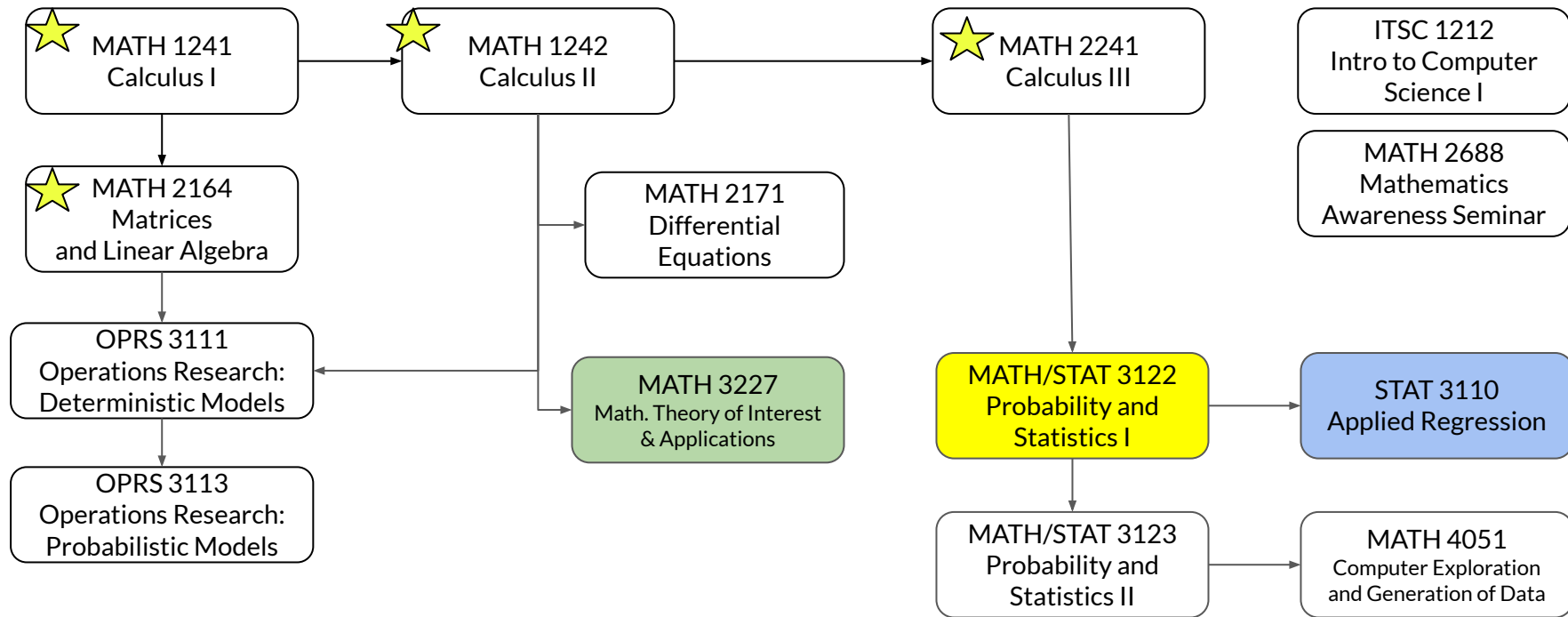
MATH 3 or 4xxx Upper-level Math elective

Select any 3xxx or 4xxx MATH or STAT course

OPRS 3111 and MATH 4228 are offered in Fall every year

OPRS 3113 and STAT 3150 are offered in Spring every year

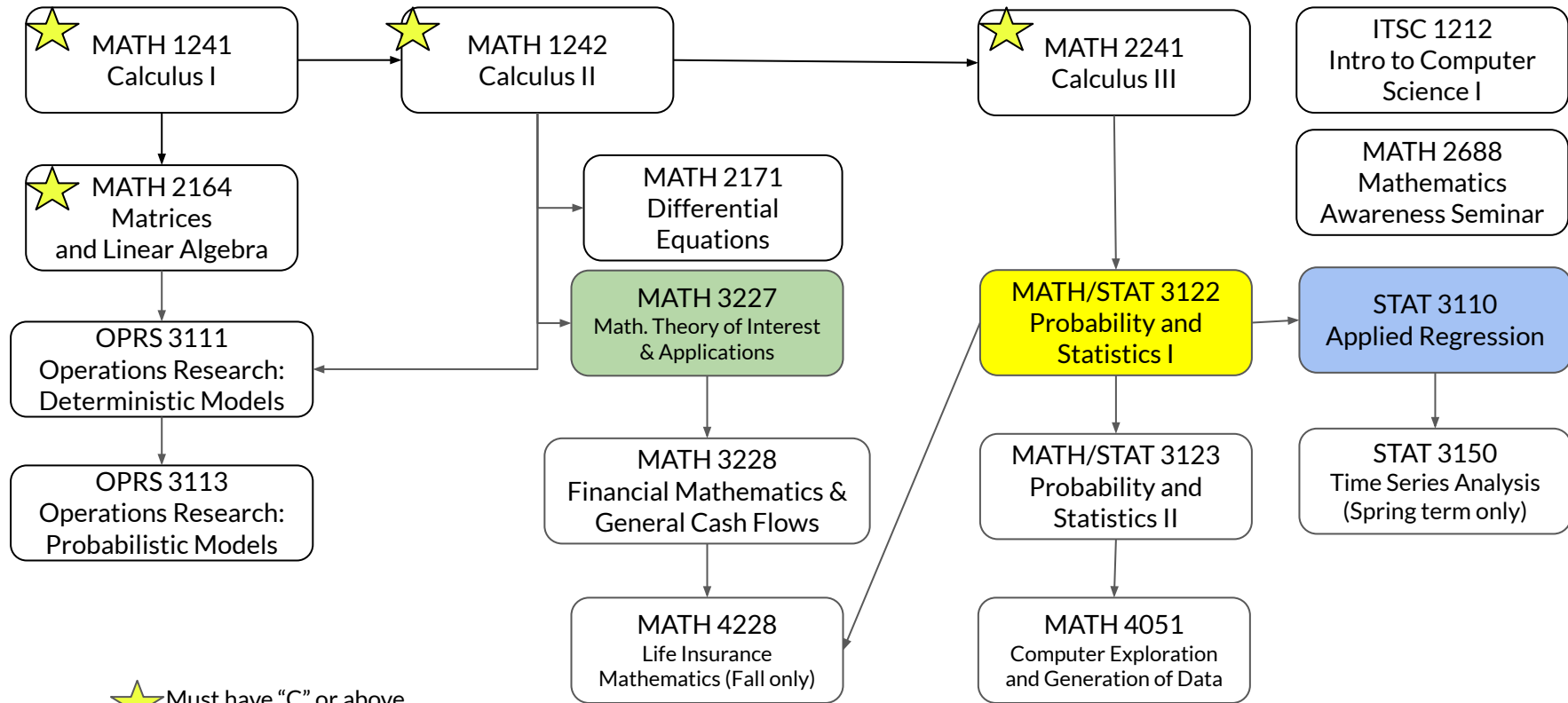
B.S. in Math for Business core courses



★ Must have "C" or above

B.S. in Math for Business

**B.S. in Math for Business
Actuarial Science concentration**



B.S. in Math for Business

B.S. in Math for Business concentration courses

STAT 3110
Applied Regression

STAT 3122
Probability and
Statistics I

★ MATH 3227
Math. Theory of Interest
and Applications

Actuarial Science
concentration courses

STAT 3150
Time Series Analysis
(Spring only)

MATH 4228
Life Insurance
Mathematics (Fall only)

MATH 3228
Financial Mathematics
and General Cash Flows

These courses plus one MATH/STAT/OPRS
at the 3xxx or 4xxx level

STAT 3110
Applied Regression

STAT 3122
Probability and
Statistics I

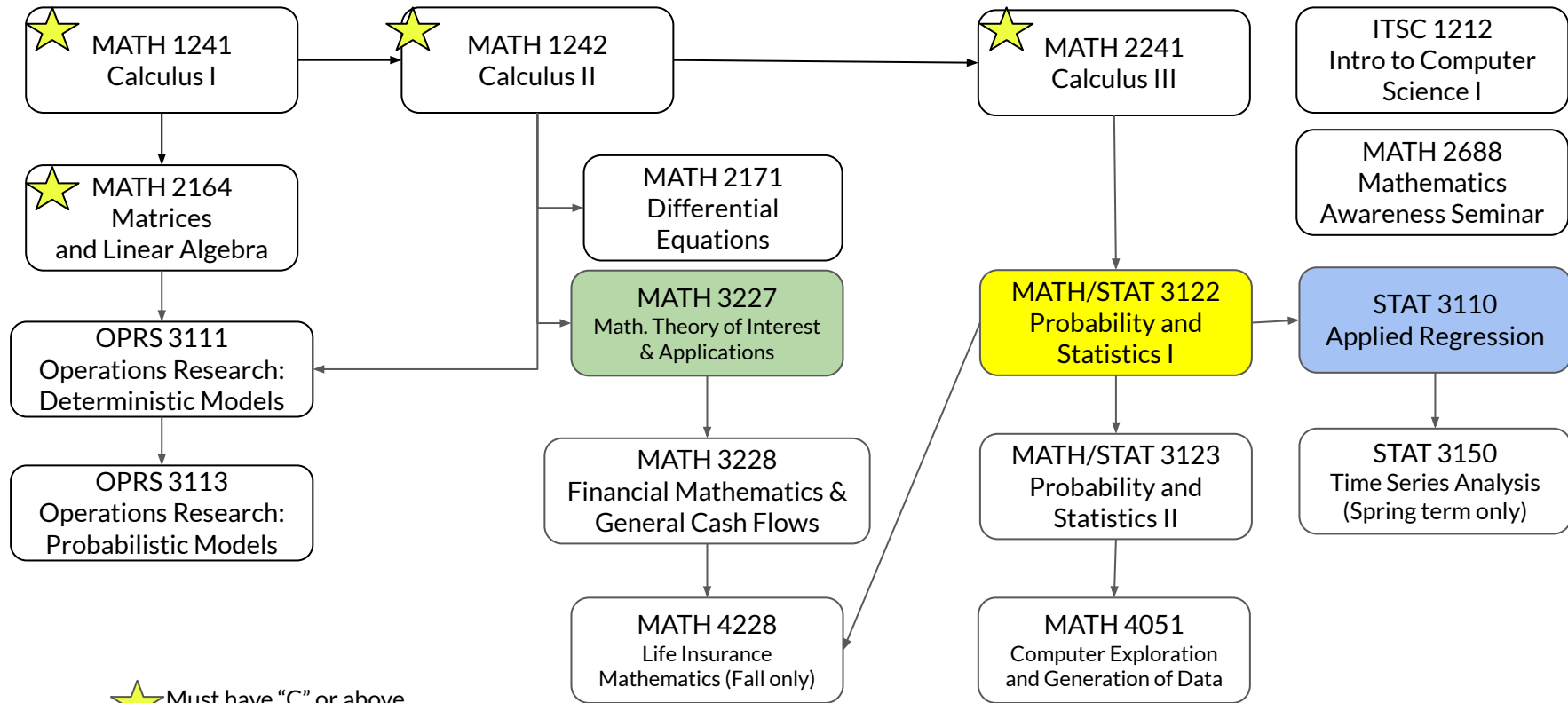
Economics/Finance
concentration courses

STAT 3150
Time Series Analysis
(Spring only)

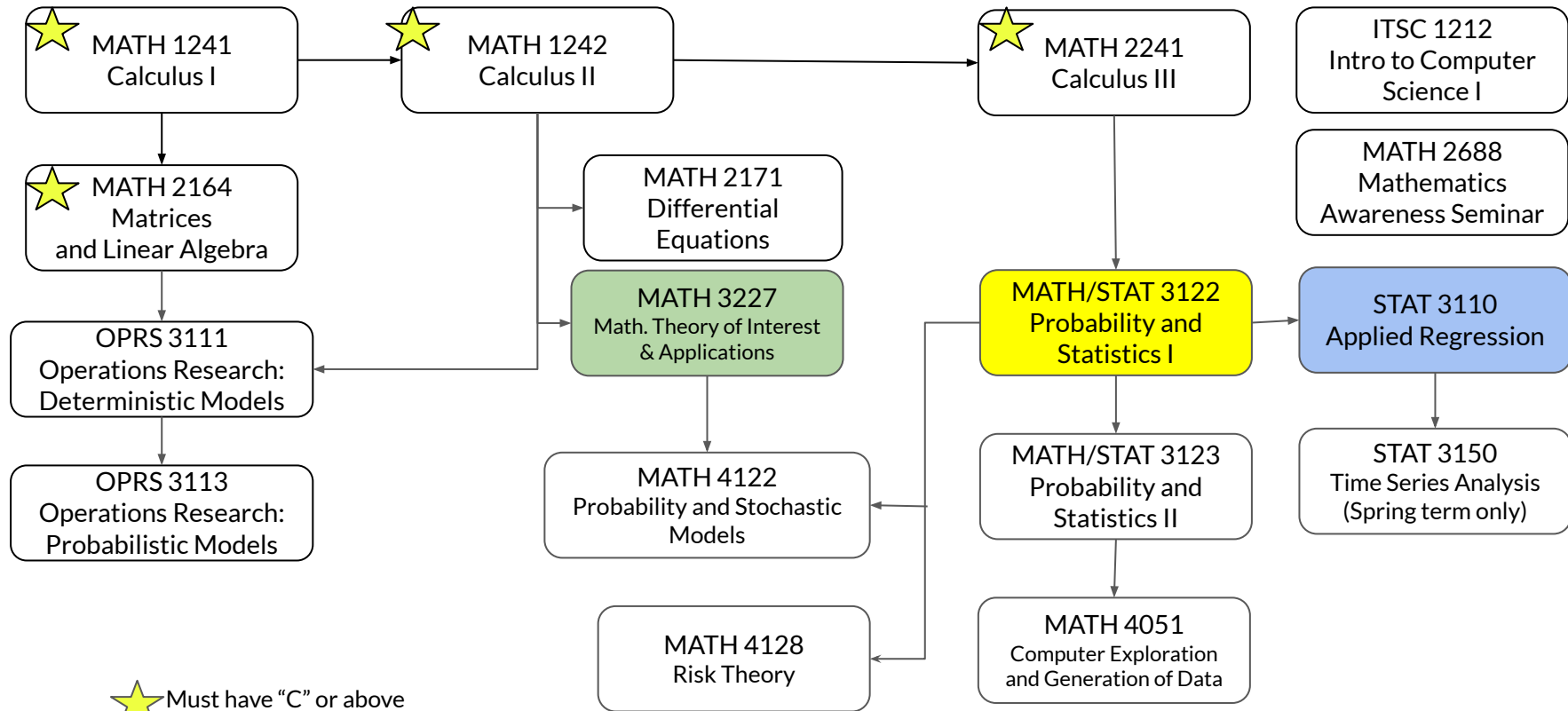
MATH 4122
Probability and
Stochastic Models

MATH 4128
Risk Theory

**B.S. in Math for Business
Actuarial Science concentration**



B.S. in Math for Business
Economics/Finance concentration



B.S. in Math for Business

B.S. in Math for Business concentration courses

STAT 3110
Applied Regression

STAT 3122
Probability and
Statistics I

★ MATH 3227
Math. Theory of Interest
and Applications

Actuarial Science
concentration courses

STAT 3150
Time Series Analysis
(Spring only)

MATH 4228
Life Insurance
Mathematics (Fall only)

MATH 3228
Financial Mathematics
and General Cash Flows

These courses plus one MATH/STAT/OPRS
at the 3xxx or 4xxx level

STAT 3110
Applied Regression

STAT 3122
Probability and
Statistics I

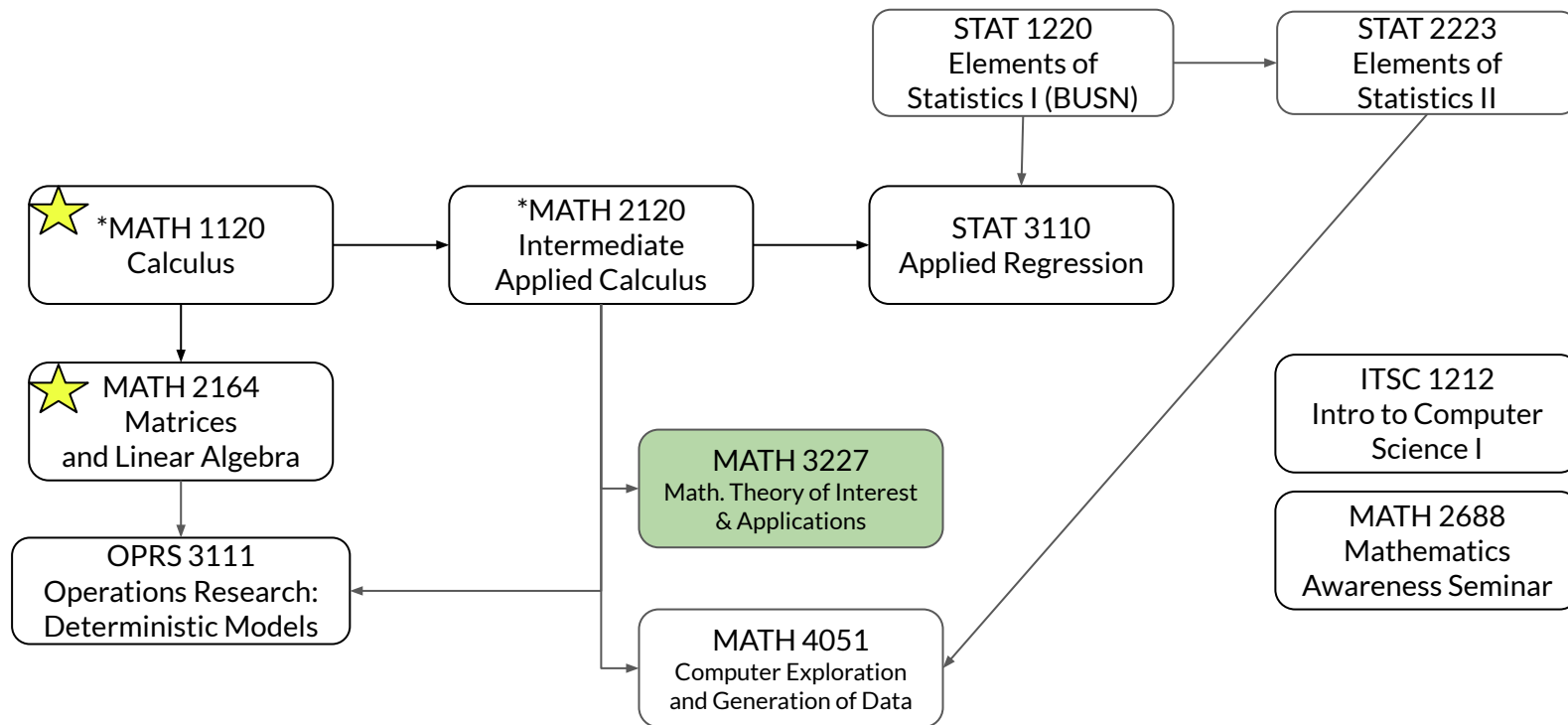
Economics/Finance
concentration courses

STAT 3150
Time Series Analysis
(Spring only)

MATH 4122
Probability and
Stochastic Models

MATH 4128
Risk Theory

B.A. in Math for Business core courses

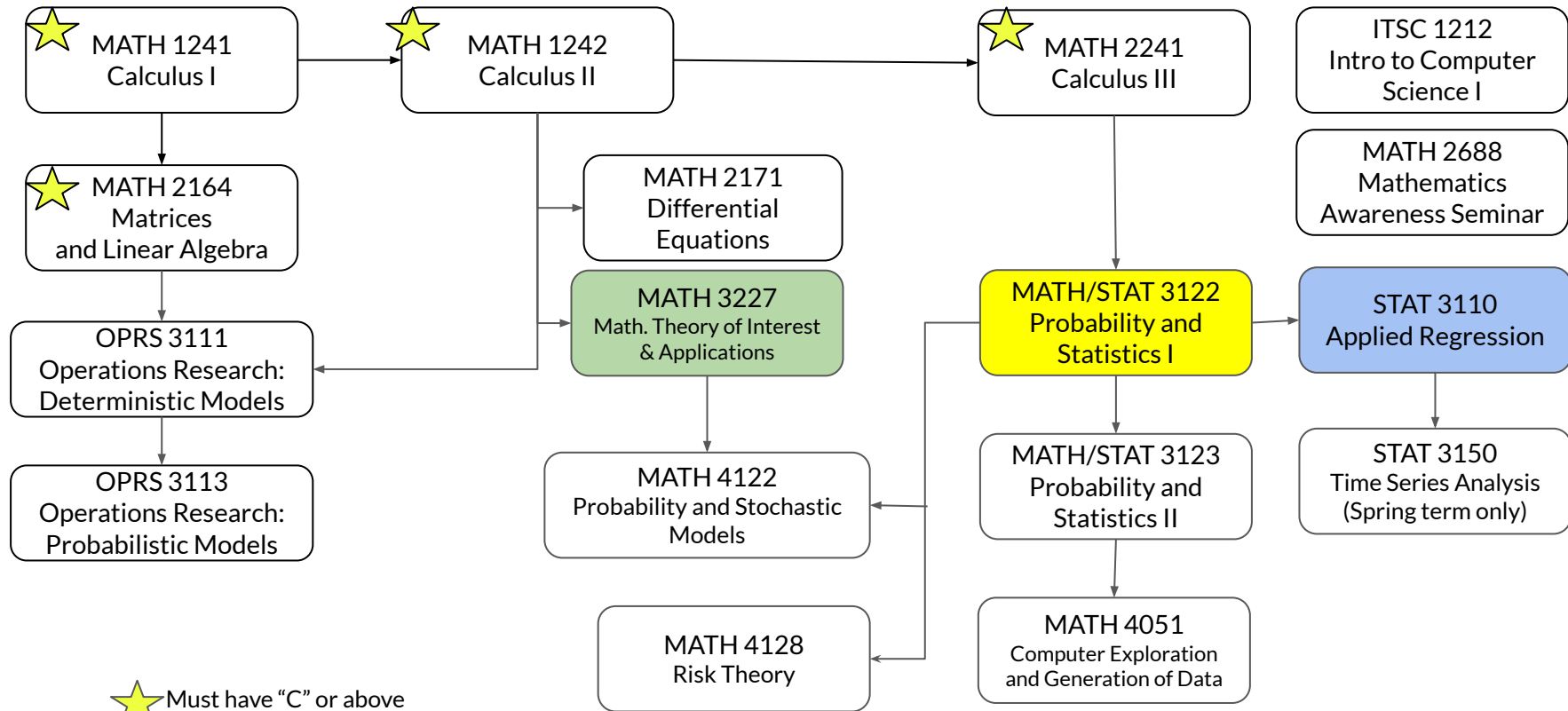


★ Must have "C" or above

* MATH 1120 and 2120 may be replaced by MATH 1241, 1242, and 2241.

B.A. in Math for Business

B.S. in Math for Business
Economics/Finance concentration



B.S. in Math for Business