

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>NEW/CHANGE PROGRAM REQUEST</b> <b>Undergraduate Programs</b>		UUPC Approval <u>3-29-21</u> UFS Approval _____ Banner Posted _____ Catalog _____
	<b>Department</b> Undergraduate Research and Inquiry <b>College</b> Undergraduate Studies		
<b>Program Name</b> Undergraduate Research Certificate	<input checked="" type="checkbox"/> <b>New Program</b>  <input type="checkbox"/> <b>Change Program</b>	<b>Effective Date</b> (TERM & YEAR)  Fall 2021	
<b>Please explain the requested change(s) and offer rationale below or on an attachment</b>  We are proposing a new Undergraduate Research Certificate to clearly recognize undergraduate students for systematic development of excellence in undergraduate research. The Undergraduate Research Certificate will clearly denote this achievement for students engaged in research. Benefits include the ability of students to articulate to potential employers and graduate programs their research activity and be more competitive in applying for jobs or research assistantships in graduate or professional school.			
<b>Faculty Contact/Email/Phone</b> Donna Chamely-Wiik/dchamely@fau.edu/7-1019		<b>Consult and list departments that may be affected by the change(s) and attach documentation</b> See attached support letters from College Deans.	
<b>Approved by</b> Donna Chamely-Wiik, Ph.D. <small>Digitally signed by Donna Chamely-Wiik, Ph.D. DN: cn=Donna Chamely-Wiik, Ph.D., o=Florida Atlantic University, ou=Undergraduate Studies, email=dchamely@fau.edu, c=US Date: 2021.03.12 17:16:27 -0500</small>		<b>Date</b>	
Department Chair _____		_____	
College Curriculum Chair <u>Edward Pratt</u>		<u>3.15.21</u>	
College Dean <u>Edward Pratt</u>		<u>3-15-21</u>	
UUPC Chair <u>Jerry Haky</u>		<u>3-29-21</u>	
Undergraduate Studies Dean <u>Edward Pratt</u>		<u>3.15.21</u>	
UFS President _____		_____	
Provost _____		_____	

Email this form and attachments to [mjennning@fau.edu](mailto:mjennning@fau.edu) one week before the UUPC meeting so that materials may be viewed on the UUPC website prior to the meeting.

### FAU Research Certificate Proposal

**Purpose:** To clearly recognize undergraduate students for systematic development of excellence in undergraduate research and clearly denote this achievement on the transcript to make it easier for potential employers to interpret research intensive designations and directed independent research coursework. We believe this will help students to obtain research assistantships in graduate or professional school, for example.

To this end, we investigated similar research certificate programs at the following institutions:

- I. University of Illinois at Urbana-Champaign
- II. Utah State
- III. Grand Valley State University
- IV. Louisiana State University
- V. Indiana University at Bloomington
- VI. University of Missouri-Kansas City
- VII. University of Illinois Springfield
- VIII. University of Saskatchewan
- IX. University of Hawaii at Manoa
- X. University of South Florida

Many of the programs awarded credit towards the certificate for two or more courses designated as intensive research experiences by faculty, participation in internal research symposia, presentations at external research conferences, research publications, research-focused independent study, undergraduate thesis, summer research internship, etc. We have modeled our program after these other existing ones.

#### FAU Research Certificate program description / proposed catalog language

To recognize undergraduate students for systematic development of excellence in undergraduate research, FAU has established the Research Certificate.

Undergraduate students may earn the Research Certificate by completing the following requirements:

- A) 12 credit hours of coursework related to undergraduate research from the following:
  1. Up to 6 credit hours of IFP courses or Honors Core courses (for Wilkes Honors College students) at the *Research Exposure<sub>1</sub>* level including the following:

Research Exposure IFP Courses Approved List		
Course Name	Course Number	Credits
<i>Honors Introduction to Anthropology</i>	ANT 2000	3

<i>Life Science Lab or RI: Life Science Lab</i>	BSC 1005L	1
<i>Contemporary Chemical Issues</i>	CHM 1020C	3
<i>General Chemistry For the Health Sciences</i>	CHM 2032	3
<i>General Chemistry 1</i>	CHM 2045	3
<i>Honors Psychopathology</i>	CLP 4143	3
<i>Principles of Macroeconomics or Principles of Microeconomics</i>	ECO 2013 or ECO 2023	3
<i>Disability and Society</i>	EEX2091	3
<i>Blue Planet</i>	ESC2000	3
<i>Honors 20th Century Europe</i>	EUH 2341	3
<i>Honors Freshman Seminar in History</i>	HIS 1933	3
<i>Honors Ways of Knowing</i>	PHI 2361	3
<i>Honors Privacy</i>	POS 3626	3

2. Up to 3 credit hours of *Research Skill-building<sub>2</sub>* coursework in research methods from the approved list below.
3. At least 3 credits hours of *Research Intensive* designated courses and/or *Directed Independent Research*. Honors thesis and courses with research compacts can substitute for Research Intensive designation.

AND

B) Presentation at one of the FAU Undergraduate Research Symposia (Boca, Broward, and Jupiter) or appropriate discipline-specific conferences, symposia, exhibitions, showcases, etc. (internal and external), as approved by the University Undergraduate Research Committee. For internal symposia, students will register for a zero credit IDS 4914 (See attached inclusion of this new course).

Additional stipulations include:

- Courses that are taken S/U may count toward the certificate with a grade of satisfactory, but for courses with standard grading, students must complete coursework with a minimum grade of “C” or better.
- A maximum of 3 credits transferred can be applied to the certificate.
- Course substitutions will be reviewed by the Undergraduate Research Curriculum Committee on a case-by-case basis.
- Students should consult with the Office of Undergraduate Research and Inquiry and/or their undergraduate advisor for more information.

<b>Research Skill Building Courses Approved List</b>			
<b>College</b>	<b>Course Name</b>	<b>Course Number</b>	<b>Credits</b>
A&L	<i>Archaeological Research Methods</i>	ANT 4116	3
A&L	<i>Research Methods in Bioarchaeology</i>	ANT 4192	3
A&L	<i>Research Methods in Cultural/Social Anthropology</i>	ANT 4495	3
A&L	<i>Architectural Research Methods and Analysis</i>	ARC 3091	3
A&L	<i>Architectural History and Theory 2</i>	ARC 4219	3
A&L	<i>Architectural Design 7</i>	ARC 4327	3
A&L	<i>Architectural Design 8</i>	ARC 4328	3
A&L	<i>Advanced Architectural Design 1</i>	ARC 5328	3
A&L	<i>Topical Design Studio</i>	ARC 5352	3
A&L	<i>Intro to Urban Design</i>	ARC 6305	3
A&L	<i>Conflict and Communication</i>	COM 3462	3
A&L	<i>Principles of Research Writing</i>	ENC 4138	3
A&L	<i>Research and Bibliographic Methods</i>	FOL 3880	3
A&L	<i>Program Evaluation</i>	PAD 4320	3
A&L	<i>Quantitative Inquiry for Public Managers</i>	PAD 4702	3
A&L	<i>Research Methods for Public Management</i>	PAD 4704	3
A&L	<i>Research Methods in Political Science</i>	POS 3703	3
A&L	<i>Qualitative Research Methods</i>	SYA 4310	3
A&L	<i>Sociological Analysis: Quantitative Methods</i>	SYA 4400	3
BUS	<i>Honors Senior Seminar in Economics</i>	ECO 4935	3
BUS	<i>Operations Management Applications</i>	MAN 4504	3
BUS	<i>Data Management and Analysis with Excel</i>	QMB 3302	3
BUS	<i>Quantitative Methods in Administration</i>	QMB 3600	3
EDU	<i>Multidisciplinary Introduction to Research</i>	EDF 2910	1
EDU	<i>Multidisciplinary Research Methods 1</i>	EDF 2911	1

EDU	<i>Education in a Multicultural Society</i>	EDF 3610	3
EDU	<i>Responsible Conduct of Research</i>	EDG 4361	2
ENG	<i>Experimental Design and Data Analysis</i>	CAP 2750	3
HON	<i>Honors Research Methods in Cultural Anthropology</i>	ANT 4495	3
HON	<i>Honors Introduction to Programming for Visual Art</i>	ART 3657C	4
HON	<i>Honors Game Studies</i>	ART 4640	
HON	<i>Honors 3D Computer Game Development</i>	ART 4653C	4
HON	<i>Honors Introduction to Data Science</i>	COP 3076	3
HON	<i>Honors Religion and Politics in Latin America</i>	CPO 4305	3
HON	<i>Honors Econometrics: Applied Regression Analysis</i>	ECO 4412	3
HON	<i>Honors Interdisciplinary Critical Inquiry Seminar Social Engagement and Social Entrepreneurship - tentative</i>	IDS 3932	1-3
HON	<i>Honors Computational Social Science</i>	ISS 4304	3
HON	<i>Honors General Microbiology</i>	MCB 3020	3
HON	<i>Honors General Microbiology Lab</i>	MCB 3020L	1
HON	<i>Honors Cell Biology</i>	PCB 4102	4
HON	<i>Honors Research Methods in Psychology</i>	PSY 3213	3
HON	<i>Honors Research Methods in Psychology Lab</i>	PSY 3213L	1
NUR	<i>Nursing Research</i>	NUR 4165	3
SCI	<i>Biochemistry 1</i>	BCH 3033	3
SCI	<i>Plant Physiology Lab - tentative</i>	BOT 4503L	2
SCI	<i>Plant Biotechnology - tentative</i>	BOT 4734C	3
SCI	<i>Life of a Biologist</i>	BSC 2844	1
SCI	<i>Introduction to Biological Research - tentative</i>	BSC 3453	1
SCI	<i>Biological Research Writing - tentative</i>	BSC 3481	2
SCI	<i>Honors Research - tentative</i>	BSC 4917	3
SCI	<i>Honors Thesis - tentative</i>	BSC 4918	3
SCI	<i>Behavioral Ecology - tentative</i>	BSC 4930	
SCI	<i>Comparative Animal Behavior - tentative</i>	CBH 4024	3
SCI	<i>Organic Chemistry 1</i>	CHM 2210	3

SCI	<i>Quantitative Analysis</i>	CHM 3120	2
SCI	<i>Introduction to Physical Chemistry</i>	CHM 3400	3
SCI	<i>Inorganic Chemistry</i>	CHM 3609	3
SCI	<i>Critical Thinking in Environmental Science</i>	EVS 4021	3
SCI	<i>Health Research Methods</i>	HSA 4700	3
SCI	<i>Introduction to Undergraduate Research 1</i>	IDS 1911	1
SCI	<i>Introduction to Undergraduate Research 2</i>	IDS 1913	1
SCI	<i>Fundamentals of Research and Inquiry</i>	IDS 3910	1
SCI	<i>Introduction to Undergraduate Research Design</i>	IDS 3911	1
SCI	<i>Applied Mathematical Modeling</i>	MAP 4103	3
SCI	<i>Issues in Human Ecology - tentative</i>	PCB 3352	3
SCI	<i>Genetics Lab - tentative</i>	PCB 4067L	3
SCI	<i>Comparative Animal Physiology laboratory - tentative</i>	PCB 4723L	1
SCI	<i>Cellular Neuroscience &amp; Disease - tentative</i>	PCB 4842	3
SCI	<i>Research Methods in Psychology</i>	PSY 3213	3
SCI	<i>Experimental Design and Statistical Inference</i>	PSY 3234	3
SCI	<i>Introduction to Animal Locomotion</i>	ZOO 4373	3
SWCJ	<i>Methods of Research in Criminal Justice</i>	CCJ 4700	3
SWCJ	<i>Research Methods in Social Work</i>	SOW 4403	3
	<i>Courses with honors or research compacts</i>		

**Requested for support from Colleges**

1. Proposal draft review and suggestions for additional Research Exposure (IFP courses) and Skill Building courses from your College
2. Dean's support letter for the proposal
3. Discussion and plan for College implementation of certificate verification

## Research Definitions:

### Research Student Learning Outcomes:

Research and inquiry learning activities can be incorporated into the curriculum through a series of targeted Student Learning Outcomes (SLOs). These include:

1. SLO 1: Knowledge. Students will demonstrate content knowledge, core principles, and skills.
2. SLO 2: Formulate Questions. Students will formulate research questions, scholarly or creative problems with integration of fundamental principles and knowledge in a manner appropriate to the discipline (this learning outcome is a requirement of ALL research and inquiry levels).
3. SLO 3: Plan of Action. Students will develop and implement a plan of action to address research and inquiry questions or scholarly problems.
4. SLO 4: Critical Thinking. Students will apply critical thinking skills to evaluate information, their own work, and the work of others.
5. SLO 5: Ethical Conduct. Students will identify significant ethical issues in research and inquiry and/or address them in practice.
6. SLO 6: Communication. Students will convey all aspects of their research and inquiry (processes and/or products) in appropriate formats, venues, and delivery modes.

1. [Research and Inquiry Exposure Courses](#): Introductory courses which infuse the excitement of discovery and inquiry that expose students to what research is and is not and how it is conducted. These courses generate an awareness of and appreciation for, research and inquiry as a practice. Students acquire basic knowledge about current practices, literatures and works and research and inquiry methodologies in the discipline. Learning is guided through discussion; colloquia; assignments that introduce research and inquiry concepts, processes and techniques; or other novice-level pedagogies and experiences. Student works at this level generally focus on the identification and articulation of fundamental research and inquiry content, knowledge and skills. Courses which receive the research and inquiry skill building designation are expected to address at least three of the six QEP SLOs, with SLO 2- Formulate Questions being a requirement.

2. [Research and Inquiry Skill Building Courses](#): Courses such as “Research Methods” provide the skills and practices necessary and prepare students to participate in more intensive research and inquiry activities. Such skills and practices include research deconstruction, identification and discovery of the research question or problem, reading and communication skills, information (meta-) literacy, introduction to research and ethics, problem solving and critical thinking including interpreting information/results, employing appropriate methodologies, using technology to integrate research and inquiry into classrooms and knowledge specific to the discipline. Students develop intermediate-level discipline- specific research and inquiry skills and more in-depth knowledge of methodologies. Learning is guided through instruction-supported advanced experiences such as research discussions and critiques; practice writing or

producing specific components of scholarly work with some scaffolding, studio or laboratory training, peer review and developing project proposals. Student works at this level emphasize the refinement of novice-level knowledge and skills and/or demonstrate the development of competency in specific components of the research and inquiry process or products. Courses which receive the research and inquiry skill building designation are expected to address at least three of the six QEP SLOs, with SLO 2- Formulate Questions being a requirement.

**Endorsed by:**

College of Arts and Letters

- Viktor Kharlamov, Languages, Linguistics, and Comparative Literature & ESL Certificate Director

College of Business

- Monica Escaleras, Economics
- Ethlyn Williams, Management Programs – Leadership and Human Resources

College of Education

- Tricia Meredith, A.D. Henderson University School and FAU High School
- Sharon Darling, Exceptional Student Education
- Michael DeDonno, Educational Leadership and Research Methodology

College of Engineering

- Stella Batalama, Dean, College of Engineering and Computer Science
- Daniel Meeroff, Civil, Environmental and Geomatics Engineering

Wilkes Honors College

- Greg Macleod, Biological Sciences
- Julie Earles, Psychology

College of Medicine

- Ceylan Isgor, Biomedical Science

College of Nursing

- Nancey France, College of Nursing

College of Science

- Tobin Hindle, Geosciences
- Diana Mitsova, Urban and Regional Planning

College of Social Work and Criminal Justice

- JuYoung Park, Social Work

Undergraduate Studies

- Donna Chamely-Wiik, Office of Undergraduate Research and Inquiry