ual: central saint martins

MA BIODESIGN

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APPROVED

MA Biodesign

Awarding Body	University of the Arts London
College	Central Saint Martins
Programme	Jewellery, Textiles & Materials (L029)
Course AOS Code	CSMMABIOX01
FHEQ Level	Level 7 Masters
Course Credits	180
Mode	Extended Full Time
Duration of Course	2 years
Teaching Weeks	60 weeks
Valid From	2022/23
QAA Subject Benchmark	Art and Design
Collaboration	N/A
UAL Subject Classification	Textiles and Materials
HECoS Code	100345 - Biological Sciences, 100048 - Design
UCAS Code	N/A
PSRB	N/A
Work placement offered	No
Course Entry Requirements	The standard entry requirements for this course are as follows: • An honours degree in a relevant design subject area • **Or** an equivalent EU/international qualification

	And normally at least one year of professional experience. **AP(E)L – Accreditation of Prior (Experiential) Learning** Exceptionally applicants who do not meet these course entry requirements may still be considered. The course team will consider each application that demonstrates additional strengths and alternative evidence. This might, for example, be demonstrated by: • Related academic or work experience • The quality of the personal statement • A strong academic or other professional reference **Or** a combination of these factors. Each application will be considered on its own merit but we cannot guarantee an offer in each case. **English language requirements** IELTS level 6.5 or above, with at least 5.5 in reading, writing, listening and speaking (please check our main English language requirements webpage).
Selection Criteria	We select applicants according to potential and current ability in the following areas: • Personal and professional aspirations are compatible with the aims and objectives of MA Biodesign (Personal Statement/Interview) • The necessary skill and fluency in your own design thinking and processes to benefit from the course (Portfolio Review/Personal Statement/Interview) • A strong personal commitment to sustainable change and an ability to articulate and reflect on issues relating to sustainability (Portfolio review/Personal Statement/Interview). These criteria are assessed through a review of the Personal Statement, Portfolio and Interview. Interviews are only arranged on the basis that the Portfolio demonstrates the applicant's ability to skilfully generate

	and communicate a range of ideas addressing problems relevant to the discipline of biodesign. **What we are looking for** We are looking for people who are personally committed to contributing to sustainable change through their own design practice and who are excited about the potential of biodesign practices to contribute to this. Successful applicants will be able to embrace iterative, speculative and experimental approaches to developing biodesign practices and will relish the opportunity to articulate and debate how their work can contribute to the wider issues relating to sustainability.
Scheduled Learning and Teaching	Following two years of disruption due to Covid 19 we are glad to be returning to normal delivery in 2022/23. This means on campus face-to-face activities such as course projects, lectures, seminars, and studio work, except for courses designed to be delivered online. Scheduled learning and teaching activity may include lectures, seminars, studio and workshop briefings, tutorials, external visits and project briefings.

Awards and Percentage of Scheduled Learning

Year 1

Awards	Credits
Postgraduate Certificate (Exit Only)	60

Year 2

Awards	Credits
Postgraduate Diploma (Exit Only)	120
Master of Arts	180

Scheduled Learning Split by Level	
Level 7	32%
Total Scheduled Learning Split	**32%**

Course Aims and Outcomes

The Aims and Outcomes of this Course are as follows:

Aim/Outcome	Description
Aim	The course aims to incorporate the inherent life-conducive principles of biological living systems into the design process to develop alternative and regenerative design propositions for a sustainable future.
Outcome	Develop a thorough understanding of the challenges and opportunities when designing in the context of critical 21st century social, political, economic, ethical and sustainable issues.
Outcome	Develop a thorough understanding of bio-informed design strategies and whole system thinking
Outcome	Study and integrate the principles of biomimicry, in relation to designing structures, materials, behaviours, and/or intelligent systems
Outcome	Explore biological sciences and biofabrication tools and methods to study, transform, control and/or collaborate with living organisms.
Outcome	Understand how to develop a sophisticated lab-based biodesign practice
Outcome	Explore and integrate biocomputation tools into design practice
Outcome	Develop an original and complex biodesign portfolio of work.
Outcome	Articulate and integrate ethical issues within their creative practice.

	Distinctive Features
1	A unique interdisciplinary design Masters programme dedicated to pushing the boundaries of sustainable design via biomimicry and biological sciences.
2	A research-driven curriculum that benefits from the integration of a biologist in the teaching team, access to the Central Saint Martins grow-lab, as well as access to the biodesign research and international scientific network of the Design & Living Systems Lab.
3	This course embraces the creative, disruptive and experimental Central Saint Martins culture whilst ensuring that rigorous scientific curriculum content creates innovative and sustainable designers and design proposals.
4	Working with industry partners on Knowledge Exchange and Research oriented projects in this rapidly emerging field.

Course Detail

Biodesign is an emerging discipline. Despite a growing number of publications and exhibitions, there is no universal definition of biodesign as such. Other terminologies exist, such as biophilic design, bio-integrated design, biomimetic design and bio-informed design. While they vary in definition, they all relate to a similar principle: that we can learn from nature to create more sustainable ways of living. The MA Biodesign at Central Saint Martins specifically understands biodesign as a means to incorporate the inherent life-conducive principles of biological living systems into design processes – to transition into a more holistic, sustainable future.

MA Biodesign explores bio-informed design strategies as a driver for sustainable innovation. You will articulate alternative and new innovative design propositions for the emerging bio-circular economy. Through this work, you will redefine the use of energy, water, air, waste and materials. The course proposes questions such as:

- How can we collaborate with living systems to prototype new sustainable materials?
- How can we incorporate life-conducive values in the design process towards biocompatible solutions with surrounding ecosystems?
- How can we engineer biological systems in order to tackle contemporary challenges, such as urban resilience, human and environmental health?
- How can biodesign contribute to the circular economy?
- Can bio-computation simulate and model living systems towards energy and material efficiency?

The course will introduce designers from multidisciplinary design backgrounds to whole system thinking, biomimicry principles, biological systems, bio-computational design, digital and bio-fabrication techniques. You will apply these principles to designing new sustainable materials, products, services, systems and architectural propositions. There is a strong emphasis on ethical issues and on learning through making. Theoretical, global cultural and socio-environmental contexts will inform the development of your personal biodesign agenda.

Course Units

MA Biodesign guides you towards a design enquiry. You will develop a personal biodesign agenda which can facilitate our transition to a sustainable way of life. As such, you will be expected to engage with relevant theoretical, scientific and cultural references. Throughout the course, there is a strong emphasis on ethical issues related to sustainability and biodesign practice. The units are designed to allow you to become more and more independent in the development of your practice.

Unit 1: Seed

This unit establishes the foundations of biodesign. You will explore a range of bio-informed design strategies. This will be done via a series of laboratory and studio workshops, inductions, lectures and design projects. The course begins with a significant level of teaching and will require both individual and group work. You will be expected to be proactive, responsive and collaborative in your learning.

Some projects in this unit may incorporate external scientific or industrial partners. Others will be focused on your own learning and development. You will also undertake a series of knowledge-gathering and mapping workshops. These will help you to integrate and discuss relevant theoretical and contextual references. They will also guide you towards the development of an annotated bibliography. Unit 1 concludes with the submission of a biodesign portfolio which will evidence your learning. You will also submit an oral and visual presentation which will test how you articulate and communicate your work.

Unit 2: Grow

Unit 2 allows you to build on the foundations in Unit 1. You will develop your personal biodesign agenda. This will culminate in the submission of your MA Biodesign project proposal. You will submit this along with relevant ethics and risk assessment forms and a research and development portfolio. We will encourage you to be proactive and to seek relevant external expertise or collaborations. This will allow you to test your ideas and enrich your learning against external stakeholders.

In this unit, there will be a range of design and research methodologies workshops. These are designed to support and challenge the development and delivery of your project proposal. While self-directed study will be prominent in this unit, peer-learning activities will also encourage you to articulate and discuss your personal agenda.

Unit 3: Harvest

Unit 3 is dedicated to the creative production and communication of your final MA Biodesign project. The MA Biodesign project proposal submitted in Unit 2 will provide the framework for the development of your project. You will discuss and report on your progress in regular tutorials and group critiques.

In this unit, there is a strong emphasis on communication. You will be expected to submit a short film or animation which will articulate the sustainable issues you are addressing. This will also showcase your research, development and final design outputs. You will also present your final project in an oral and visual

presentation format. This will be followed by a Q&A session, in which you will be expected to clearly situate and debate related sustainability issues.

Mode of study

MA Biodesign is offered in extended full-time mode which runs for 60 weeks over two academic years. You will be expected to commit 30 hours per week to study, which includes teaching time and independent study.

The course has been designed in this way to enable you to pursue studies, while also undertaking part-time employment, internships or care responsibilities.

Credit and award requirements

The course is credit-rated at 180 credits.

On successfully completing the course, you will gain a Master of Arts (MA degree).

Under the Framework for Higher Education Qualifications, an MA is Level 7. All units must be passed in order to achieve the MA but the classification of the award is derived from the mark for the final unit only.

If you are unable to continue on the course, a Postgraduate Certificate (PG Cert) will normally be offered following the successful completion of 60 credits, or a Postgraduate Diploma (PG Dip) following the successful completion of 120 credits.

Learning and Teaching Methods

The learning and teaching methods devised for this course include:

- Lectures
- Tutorials
- Group critique
- Workshops
- Field studies
- Technical demonstrations
- Lab work
- Making and prototyping
- Collaboration
- Debate
- Observation

Assessment Methods

- Portfolio
- Annotated bibliographies
- Presentations
- Self-assessment
- Project proposals
- Position film/animation

Reference Points

The following reference points were used in designing the course:

- The Learning and Teaching policies of the University of the Arts, London
- The QAA Framework for Higher Education Qualifications (FHEQ)
- Consultation with relevant industries.

Course Diagram

MA Biodesign – PLEASE NOTE DUE TO VACATION DATES, SPECIFIC DELIVERY WEEKS MAY CHANGE.
S=summative assessment

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<tr><td colspan="30">LEVEL 7 - Year 1</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr>
<tr><td colspan="20">Unit 1: Seed
(60 credits)</td><td>S</td><td colspan="9">Unit 2: Grow
(60 credits)</td></tr>
<tr><td colspan="30">LEVEL 7 - Year 2</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr>
<tr><td colspan="9">Unit 2 continued</td><td>S</td><td colspan="18">Unit 3: Harvest
(60 credits)</td><td>S</td><td>S</td><td></td></tr>
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The University will use all reasonable endeavours to provide the Course and the services described in this Output. There may be occasions whereby the University needs to add, remove or alter content in relation to your Course as may be appropriate for example the latest requirements of a commissioning or accrediting body, or in response to student feedback, or to comply with applicable law or due to circumstances beyond its control. The University aim to inform you of any changes as soon as is reasonably practicable